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Spraying Oils
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Neptune Lime Sul-
phur Solution.
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Summer Use.
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Editorial Chats



ORGANISED FRUIT MARKETING.

Victoria Mark System Adopted in Victoria.

THE STEADY PROGRESS of the organisation for improving the marketing of fruit in Victoria, under the "Victoria Mark" system, is very pleasing to the provisional directors, and all who have joined up with the organisation.

The Victoria Mark Fruit Co. Ltd. is really an organisation of fruitgrowers, wholesalers and retailers to standardise fruit, top-grade to carry a Victoria Mark, to advertise to increase fruit consumption, and to assist every movement to have the poorer quality fruit used in by-products,—fruit drinks, fruit powders, cider, vinegar, etc.

A meeting of the provisional directors was held at the C.T.A., Melbourne, on November 28, Mr. W. A. Thiele, presiding. There were also present Messrs. F. Cave, W. P. Mair, D. B. D. Jarman, G. C. Karnaghan, J. R. Vail, E. W. Thompson, and the secretary, R. E. Boardman. Mr. F. G. Beet, a member of the provisional committee, was also in attendance.

Sufficient shares having been allotted, the statutory meeting of the company, at which the directors will be appointed, will be held shortly.

Shareholders can vote by proxy by lodging proxy forms with the secretary on or before December 12.

Reports to hand from Harcourt, Mornington Peninsula, Gippsland, and the metropolitan district show that shares have been freely taken up by growers.

A meeting of Melbourne and metropolitan fruit retailers was held on November 22, Mr. W. Delaney presiding. Information regarding the Victoria Mark system was given by Messrs. E. W. Thompson, W. A. Thiele, W. P. Mair, F. Cave, F. G. Beet, C. J. Parnham, and R. E. Boardman.

Many essential details were fully dealt with, and a number of retailers became shareholders. Since then additional retailers have joined up.

Mr. Beet reported that Tomato growers in the Barham and Koondrook district were enquiring as to the applicability of the Victoria Mark system to the marketing of Tomatoes. It was decided that some of the provisional di-

rectors visit the district to attend a meeting and give details.

The company has been inundated with designs for the £15/15/- prize for the best trade mark.

Highly satisfactory information was received regarding the success of the National Mark system in England, and the Dominion Mark in New Zealand.

A vote of thanks was carried to Mr. Cave for his visit to Harcourt, and he was congratulated on the success achieved in securing shareholders. Mr. Cave reported that growers showed a willingness to join the State-wide movement for improving the fruit industry.

RELIEF TO FRUIT GROWERS.

Victoria to Distribute £22,000.

Applications Close on December 9.

The Victorian Department of Agriculture notifies that fruit growers wishing to participate in relief payments must lodge claims with the Orchard Supervisor for the district concerned before January 9, 1935. Payments are restricted to growers of Apples and Pears actually exported from Australia or sold for such export, during the 1933-34 season.

Application forms may be obtained from all post offices, returnable with the following particulars:—

1. All information required on the application form.
2. Account sales for all exported Apples and Pears.
3. Statement of accounts for all Apples and Pears exported.

The application and declaration forms must be signed before a Justice of the Peace or Commissioner for Affidavits.

THE CITRUS INDUSTRY.

1,000,000 Bushel Surplus by 1936.

The recent survey of the Australian Citrus industry revealed a potential million bushels in Australia above local needs. With limited export markets the position needs to be frankly faced.

A nation-wide educational advertising campaign will do much to shift the surplus.

This means co-ordination between all the Orange-producing States, and probably the adoption of a national mark for quality, so that the public can buy with confidence.

"VICTORIA MARK" DESIGN.

Prize of Fifteen Guineas Offered.

As the first step in the scheme of giving the public of Victoria fruit of standard quality, the Victoria Mark Fruit Co. Ltd. is offering a prize of £15/15/- for the best design of a distinguishing mark under which this fruit will be sold and guaranteed. The design is to be in four colors, and is to incorporate the name "The Victoria Mark Fruit Co. Ltd." The judges will be Mr. J. M. Ward, Superintendent of Horticulture; Mr. W. A. Thiele, chairman of directors of the Victoria Mark Fruit Co., and Mr. F. S. B. Rickards, of Rickards' Advertising Service. Full particulars may be obtained from the Rickards Advertising Service, 5th floor, T. and G. Building, Collins-street. All designs must be submitted by December 3, and sent to that address, and they will become the sole property of the Victoria Mark Fruit Co.

FRUIT FOR PHILIPPINE ISLANDS.

Embargo Now Lifted.

As a result of representations by the Department of Commerce to the Philippine Islands Government, the embargo on the importation of fresh fruit into the Philippine Islands has been lifted, as far as fruit from Victoria and Tasmania are concerned.

The embargo had previously been applicable to fruit exported from all States of the Commonwealth except South Australia. For the present the embargo will continue to apply to Queensland until it can be satisfactorily established that it is free from the infestation of the Mediterranean Fruit Fly (*ceratitis capitata*).

THE BANANA PROBLEM.

Public Inquiry Demanded.

Early in November, prices for Bananas on the Sydney market dropped to the lowest mark on record, but with large clearances to Melbourne, prices firmed during the month.

The decision of the Federal Government to reduce the charges on Fijian Bananas has been received with strong condemnation by Queensland growers. In an interview, the manager of the Committee of Direction of Fruit Marketing, Queensland, Mr. W. Ranger, who is visiting Melbourne, stated that a public inquiry should be held into the Banana industry before any reduction on Fijian Bananas is made.

In somewhat the same strain, Mr. H. Anthony, president of the Banana

Growers' Association of N.S.W., addressing a meeting of growers in Brisbane, stated that the intention of the Federal Government to reduce primage duty and sales tax on Fiji Bananas was absurd. Even though it would not affect Australia much at present, since the market was now glutted with our own Bananas, and growers were not even receiving the cost of production, yet a Royal Commission into the whole Banana industry was highly desirable at an early date.

Fiji Bananas.

Exemption from Sales Tax.

Formal action was taken in the House of Representatives on November 29 by the Assistant Treasurer (Mr. Casey) to give effect to the decision of the Cabinet to reduce the taxes on Fijian Bananas sold in Australia. Mr. Casey introduced a Bill, the main purpose of which is to exempt Fijian Bananas from the payment of sales tax. The measure extends the same concessions to a number of other Fijian primary products, mainly fruit and nuts.

News in Brief.

Fruit crops on the Murrumbidgee Irrigation areas are expected to be generally lighter than last year, but the quality is expected to show a big improvement.

Apple and Pear crops in N.S.W. are shaping for a much heavier crop than last season. The coming crops at Orange, however, suffered through recent storms.

Victorian Mandarin growers who are entitled to share in the Federal Government's grant must lodge claims before December 15.

Granny Smith and Jonathan Apples are shaping for a good crop on the Murrumbidgee Irrigation areas—other varieties are light.

Sultanas will be very light in the Murrumbidgee Irrigation areas owing to frosts. Some growers lost 90 per cent. of their crops.

That the competitive entries for dried fruits at the recent Royal Agricultural Show, Melbourne, did not reflect the importance of the industry is the view expressed by our Renmark correspondent after his recent visit.

The Victoria Mark Fruit Co. Ltd. is offering £15/15/- as a prize for the best design for a trade mark.

A new system of orchard heating to prevent frost damage is being tried out.

Solid fuel, particularly brown coal briquettes, are burned in specially constructed portable grates. Success has attended the demonstrations so far.

Damage to dried vine fruit crops in Victoria to the extent of £195,000 was caused by spring frosts this season. There was also considerable hail damage. The State Government is considering methods of relief.

Much satisfaction was expressed at the second annual meeting of the Thrips Investigation League. It is now possible to accurately forecast a thrips infestation. Control measures include the preparation of a toxic and repellent dust, which will keep the pests away from blossoms for two days. Further research work is proceeding.

Owing to the wet spring, Apple crops in Victoria have thinned out noticeably. Where cross pollination was provided the crops are heavy.

As Oranges exported under identical conditions from the same orchard arrived in U.K. in varying conditions, the question of refrigerated transport needs to be carefully studied.

A careful review of the Citrus situation is given by our Sydney correspondent in this issue.

Oranges which were "processed" before shipment arrived generally in better condition than fruit which was not treated.

The killing of flying insects has been successfully undertaken in U.S.A. Moths are attracted at night by light and in the day by odor to live electric wires and thereby killed. Soil insect pests can also be destroyed by electric current.

During the grasshopper plague in Victoria, the staff of the Plant Research Station, Burnley, was taxed to the utmost; in fact, all other work had to be put aside during the campaign. The scientists gave themselves unsparingly to the task of combating the pest, and the efforts were largely successful.

But the necessity for an increased staff of scientists was very apparent.

USED VICTORIAN FRUIT CASES HELD UP AT SYDNEY.

Sydney fruit agents doing business with Victorian growers received a setback at the end of November, when about 1,000 cases of fruit shipped from Melbourne in reconditioned cases were held up by officers of the Department of Agriculture at the wharf. The cases objected to were quite good and clean, and far superior to the majority of cases used for Citrus by N.S.W. growers. In one instance, a fruit agent was able to get his consignment through to his store after a few hours' delay, on

condition that he repacked the fruit into new cases at the markets. Others were not so fortunate, and were held up for a couple of days. The wood of the cases had all been scraped and cleaned, and in most instances looked quite new. The fruit agents concerned consider that they should have been warned by the officers of the department that reconditioned cases would not be admitted to Sydney. Had they received the warning, they would have got in touch with growers, asking them to use new cases.

Personal.

Mr. E. Swane, of Swane Bros., Nurserymen, Ermington, N.S.W., visited Victoria early in November. The firm grows Citrus and deciduous fruit trees, also Roses and ornamental shrubs. Mr. Swane visited several of the nurseries around Melbourne during his visit.

Dr. J. Davidson, Chief Entomologist, Waite Research Institute, Adelaide, who is in charge of the thrips investigation, was in Melbourne during November. His second annual report of the thrips investigation was listened to with marked attention. It was felt much good work had been accomplished. Dr. Davidson visited Sydney before returning to Adelaide.

Mr. S. E. Scott, previously of the firm of Messrs. Scott and Edwards, has joined the staff of the Producers' Distributing Society of the Wholesale Fruit Market, Melbourne.

Messrs. J. B. Mills, G. W. Brown, H. A. Court and C. H. Cane, delegates from the Australian Apple and Pear Export Council to New Zealand, returned at the end of November. A mutual basis for quotas for the export of Apples was decided upon.

Obituary.

Mr. George Flood, a pioneer fruit-grower in the Tyabb district, died at Mornington at an advanced age on November 7. The late Mr. Flood was a well-known and highly respected district identity. There was Masonic ritual at the graveside.

As we go to press, we regret to learn of the death of Mr. Z. Akers, of Shepparton.

E. J. RAFFERTY PASSES.

The death of Mr. E. J. Rafferty, former assistant secretary of the Royal Agricultural Society of N.S.W., during November, at the age of 49 years, removes one of Sydney's noted figures.

Mr. A. W. Skidmore succeeded the late assistant secretary at the R.A.S.

Remarkable Success of Thrips Investigation

(By Dr. J. Davidson, Chief Entomologist, Waite Research Institute, Adelaide, in Charge of Thrips Investigation.)

THE SCOPE AND ORGANISATION of the research programme of the thrips investigation was outlined in the first annual report. This report was published in the issue of the "Fruit World of Australasia," dated 1/10/1933. An account was given of the progress of the work during the period ended August 31, 1933.

The present report gives a survey of the second year's work; it also shows the relationship of the results of that work to the development of practical measures for reducing losses in orchard and garden crops due to thrips infestations.

A.—Biology of the Apple Thrips (*Thrips imaginis* Bagnall).

One of the main lines of the investigation has been a study of the causes underlying the occurrence of the Apple thrips in plague numbers in particular years. It has been shown that weather plays a dominating role in this respect. The influence of temperature and moisture (rainfall) on the various stages of development of this insect has been examined by means of controlled experiments. Mr. J. W. Evans and Mr. H. G. Andrewartha have shown that the survival of the pupal stages in the soil is markedly affected by soil moisture; if the soil is too dry there is heavy mortality. Therefore the physical character of the soil and rainfall during the autumn and winter months are important in relation to the number of pupae which survive in the soil during the winter period. Accounts of experiments carried out by Mr. J. W. Evans and Mr. H. G. Andrewartha were published in the *Journal of the Commonwealth Council for Scientific and Industrial Research* for May and November, 1934.

Experiments relating to the influence on the pupae of excessive wetness of the soil are nearing completion; experiments are in progress regarding the depth to which nymphs penetrate into the soil at the time of pupation.

The manner in which the

Apple thrips overwinters

has an important bearing on the numbers present during the following spring. In addition to overwintering as pupae in the soil, it has been shown that adult individuals can survive the winter period in sheltered situations. These adults become active with rise in

temperature in early spring; and appear to be important in Victoria in relation to the numbers of thrips present in early spring.

Where food and other conditions are favorable, the length of life of the adults varies with temperature. Experiments with temperatures varying from 30 deg. C. (86 deg. F.) to 12 deg. C. (53.6 deg. F.), the average length of life

In addressing the second annual meeting of the Thrips Investigation League, the Entomologist in charge, Dr. J. Davidson, gave valued information.

Temperature and soil moisture during autumn and winter affect the thrips population: with dry soil the mortality is heavy.

It is now possible to forecast thrips infestation. Scientists announced that there would be no thrips plague in 1933: again they announced in the winter of 1934 there would be no thrips plague this season. The basis for these forecasts is herein set forth.

To protect fruit blossoms when a thrips infestation occurs, the line of research has been to find a repellent to keep the pests away during the critical period.

Pyrethrum and Derris, in certain combinations, as detailed herewith, will protect blossoms for two days with a single dusting costing 3d. per tree. A second dusting would operate for another two days.

Further research work is being conducted.

ranged from 15 to 90 days; at 8 deg. C. (46 deg. F.) certain individuals remained alive up to 210 days. With temperatures below 9 deg. C. (48 deg. F.) *Thrips imaginis* remains inactive, and development almost ceases.

Egg-laying is markedly influenced by temperature; a female may lay 20 eggs in one day when temperature is favorable; a total of 500 eggs has been laid by one female during her lifetime.

B.—Forecasting Thrips Plagues.

Experimental data of the kind given above are necessary in order to enable us to correlate the activity and abundance of

THRIPS PLAGUES CAN NOW BE ACCURATELY FORECAST.

REPELLANTS WILL KEEP THE INSECTS FROM THE BLOSSOMS FOR TWO DAYS.

FURTHER RESEARCH IS BEING CONDUCTED.

SECOND ANNUAL REPORT PRESENTED TO THRIPS INVESTIGATION LEAGUE.

thrips with environmental factors. From the facts now established a clear understanding has been developed of the association of weather factors, particularly rainfall and temperature on the numbers of the Apple thrips during certain months.

The plan of taking daily records in selected districts of the number of thrips present in Roses and other flowers throughout the year was referred to in the previous report. These records have been continued in South Australia and Victoria. Analysis of the data obtained show the close correlation between the numbers of the Apple thrips present in autumn and in the following early spring. They illustrate clearly the relationship between temperature and the amount and distribution of rainfall with fluctuations in thrips numbers. This is due to the adverse effects of unfavorable periods of weather in retarding the reproductive rate and increasing the mortality of the insects; and the beneficial effects of favorable weather on the abundance of the insects.

This aspect of the work has been described by Mr. J. W. Evans for South Australia (*Journal C.S.I.R.*, May, 1934), and by Mr. H. G. Andrewartha and Miss H. V. Steele for Victoria (*Journal C.S.I.R.*, November, 1934).

Where the necessary meteorological data are available a reliable estimate of the possible degree of spring infestation by the Apple thrips may be made towards the end of the previous winter. The practical value of this information is evident, since control preparations can be made before the Apple blossom period (October).

Predictions were made before the spring of 1933 and 1934 that *Thrips imaginis* would not occur in serious numbers during the spring months of those years. These predictions were based on the thrips records referred to above, together with meteorological data; they proved to be correct.

The situation regarding this aspect of the problem may be briefly summarised as follows:—

The Apple thrips is present in relatively small numbers during the hot, dry summer months. The numbers increase in autumn, which increase may be referred to as the "autumn rise." The extent of this increase in numbers is de-

pendent on the favorableness of the weather.

The numbers of active thrips decrease as autumn advances into winter; this is due particularly to the lower temperatures. Active insects are rare during the mid-winter months in Victoria; they may be found in small numbers in the warmer districts of South Australia; the species overwinters as pupae in the soil and as dormant adults. With warmer days in early spring the numbers of thrips increase; this increase may be referred to as the "first spring rise." It is due to the emergence of adults from pupae in the soil and to the renewed activity of dormant adults. The first spring rise may occur early in spring, or late, according to the prevailing weather, particularly temperature; the numbers composing this rise depends upon the numbers present in the previous autumn rise and the survival rate during the winter.

The first spring rise is followed by a further increase in numbers, which may be referred to as the "second spring rise." This is due to the development of a further generation of the insects (offspring of the first spring rise); the date of its occurrence depends upon the date of the first spring rise and the prevailing weather, particularly temperature; the numbers present in the second spring rise depends upon the numbers present in the first spring rise and the favorableness of the weather.

It is clear that heavy spring infestations are due to a sequence of favorable periods of weather. In those years in which conditions favor the development of large numbers of thrips as a second spring rise early in October a serious infestation of Apple blossom may be expected; the infestation will be especially serious when hot, dry conditions occur in October.

The combination of conditions favorable for a heavy plague infestation of thrips can only occur in certain years at irregular intervals. In other years, however, conditions may permit of the insects occurring in economic numbers, although the infestation may be less severe. This is particularly the case with bush fruits and berry crops which flower in early summer. The development of a third generation of the insects about November or December may result in considerable increase in their numbers where weather is favorable.

C.—Control Measures.

It is evident that, when weather factors favor a plague infestation of the Apple thrips, reduction of the numbers of thrips is impracticable, owing to the widespread areas over which they occur. There is no indication that natural enemies may be used for this purpose.

The results of the studies which have been described earlier in the report show that it is possible to be adequately forewarned of an impending plague infestation in future. Practical control measures should consist of the application

of suitable insecticides

in the form of dusts or sprays, so as to protect fruit blossom during the critical periods of their infestation. A large amount of experimental work has been carried out on this aspect of the problem.

During an infestation year, thrips may be present in fair numbers in stone fruit blossoms and in the blossom of early flowering Apple varieties, also in Pear blossom. They represent the early spring emergence (first spring rise); the numbers will be relatively small and losses should be readily prevented by application of appropriate insecticidal dusts. With the mid-flowering and late flowering varieties of Apples, the position becomes more serious owing to the second spring rise of thrips in October.

Vines, berry fruit blossom and garden flowers which flower later than Apples may suffer heavy infestation if weather continues favorable. In all cases, however, marked activity of the thrips is associated only with hot days. It is during these days that the application of insecticides may be necessary. Our experimental work has been directed to substances which have a

toxic and repellent action

on thrips, the aim being to develop an insecticide which can retain these properties for as long a period as possible, after being applied to the blossom. Pyrethrum and derris have been investigated in considerable detail from this point of view; a number of other substances have also been tested, but these two have proved to be the most promising.

The efficiency of pyrethrum is determined by its pyrethrin content, particularly pyrethrin 1. The efficiency of derris depends largely on its rotenone content.

Mr. H. W. Wheeler has prepared and analysed a number of experimental sprays and dusts containing these toxic substances in varying but definite proportions.

It is important that the insecticide which is deposited on blossom should retain its toxic or repellent properties for an appreciable period

during the critical stage

of infestation by thrips. Both pyrethrum and derris lose their strength on exposure; the chief factor causing this deterioration is sunlight. This feature is of great practical importance and Mr. Wheeler carried out some experiments on the matter. His observations were published in the "Journal C.S.I.R." for May, 1934.

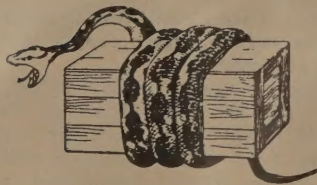
Tests were made with a number of substances in order to find the most suitable "carrier" or "filler" for making pyrethrum and derris dusts. The most useful of these were kaolin, gypsum, hydrated lime and talc. In order to increase the adhesive properties of the dusts pine oil, linseed oil or white oil in various proportions were added to certain of them. Various grades of these oils were used, their physical characters being accurately determined in each case. The fineness of the carrier is important and this was always defined by passing the material through standard sieves.

Napthalene in the form of a dust, with hydrated lime as a carrier, and also sodium fluosilicate were also tried as insecticides; the results obtained were not encouraging. The use of pine oil and turpentine incorporated in dusts as adhesives, showed that the volatile portions of these oils had repellent properties against thrips.

Mr. J. W. Evans carried out a large number of laboratory tests on thrips with various dusts and sprays. Owing to the relatively small number of thrips present in orchards during the spring of 1933, it was not possible to carry out field experiments on an adequate scale. This was also the case in the spring of 1934. From the laboratory tests, however, it has been possible to devise formulae for particular dusts and sprays which should be effective under field conditions. Although the results from field tests were not sufficient to allow of conclusions being drawn regarding the efficiency of the dusts and sprays against the thrips, valuable observations were made on the character of the cover obtained on blossom and foliage with these insecticides.

Sections of Grenache vines were dusted in early summer when thrips were more numerous. The results obtained indicate the efficiency of the dusts which were used. Approximately 80 per cent. of the thrips on the flower bunches were *T. imaginis*, the remainder being *T. tabaci*. Three sample bunches were col-

PYTHON



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42-44 MEAGHER ST., CHIPPENDALE, SYDNEY

lected 72 hours after the vines were dusted, and the number of thrips in them were counted.

No. of thrips present.

Dust used.	No. of thrips present.
(1) Proprietary dust containing derris	10
(2) Pyrethrum 1 part. Sulphur, hydrated lime and linseed oil 8 parts	346
(3) Pyrethrum 1 part. Kaolin and turpentine 8 parts	902
Undusted—check	1,240
Undusted—check	1,540

From the numerous experiments referred to above, the following dusts have been selected for extended field trials: (1) Talc, 8 parts; pyrethrum powder, 1 part; linseed oil, 2 per cent. (2) Talc, 7 parts; crushed derris root, 1 part; linseed oil, 2 per cent. (3) Talc, 7 parts; pyrethrum powder, 1 part; crushed derris root, 1 part; linseed oil, 2 per cent. All parts are by weight; it is desirable to use freshly ground derris and pyrethrum.

Thrips are driven out of the blossom and owing to the repellent action of the active ingredients of the dusts, the blossom may be protected up to two days. About half a pound of the dust is ample for an average fair size Apple tree.

Mr. Evans was in England during April to July, 1934. He visited several research laboratories where active research on insecticides is going on. Valuable information was obtained relative to dusts and sprays, having an important bearing on the thrips investigation. Experiments are in progress at the Waite Institute with a view to devising suitable sprays incorporating derris and pyrethrum by the use of white oil emulsions and spreaders.

Mr. H. G. Andrewartha has designed a machine for mixing dusts so that experimental dusts can be mixed as desired. Samples of all these dusts are analysed by Mr. Wheeler. A large number of dusts of different formulae have been made up and tested, against thrips in laboratory experiments. In general the active substances in these dusts have been derris and pyrethrum. In many instances solutions of the active principle of derris (rotenone) and of pyrethrum (pyrethrin 1) have been incorporated into the dust in the liquid state.

Field experiments were designed to test those insecticides which gave promise in the laboratory and three different methods of applying the dusts were tried: (a) cloud dusting; (b) spray dusting; (c) applying the dust in the form of a wet spray by mixing the former in water and adding a suitable spreader.

As in the case of South Australia, thrips were too few in orchard blossom in 1933 to allow of adequate field tests being made. For example, on October 11, in one orchard experiment on Apple blossom, four samples of 40 blossoms

Electrocution of Insect Pests

FLYING INSECTS ATTRACTED BY LIGHT OR ODOR.

Soil Insects Also Killed by Electricity.

Interesting Tests in U.S.A.

THE KILLING of insect pests by electricity has been successful in U.S.A.

Recently Mr. E. H. Page, seedsman and Nurseryman, of Malvern, Vic., noticed a report of these tests and wrote for information, and received the following letters from the Oklahoma Gas and Electric Co.

The insect killers

are of two general types. One for electrocution of insects moving in the air that are attracted by light or by an odor. This equipment consists of a high tension wire of about 24 gauge to which a theoretical voltage of 55,000 is applied on alternate wires. A special transformer is required to step the voltage from a household circuit of the order of 110 volts to the required voltage. This voltage as applied is not dangerous to human lives, though it will result in a serious shock similar to that given from the spark plug of an automobile. This type of equipment may be secured from the Lyons Electric Company, Post Office Box 1336, San Diego, California.

The lantern, which is equipped with a transformer and a lamp for the destruction of night flying insects that are attracted by a light, or both day and night flying insects that are attracted by a bait retails here in the United States for 11.95 dollars. The trap used only for insects that are attracted by bait, and which is a much larger unit retails at 12.50 dollars. In addition to this equipment the screens, several of which can be supplied by one transformer, can be purchased for prices varying as the size of the screen varies. Transformers for supplying energy to these screens retail at 9.00 dollars. I would suggest that you write to this company for particulars as to a complete price list in this matter.

gave a total of only 33, 34, 36 and 39 thrips, of which only about 50 per cent. were *T. imaginis*. Again, on October 16, four samples of 40 blossoms in an experiment in another orchard yielded only 5, 6, 6 and 11 thrips.

Formulae for a series of dusts and sprays have been selected as a result of these preliminary experiments. These will be available when adequate field trials can be made.

Miss H. V. Steele, in addition to the work on population studies of *T. imaginis* in association with Mr. Andrewartha, has carried out a number of experiments with the Apple thrips and the

Killing Soil Insects.

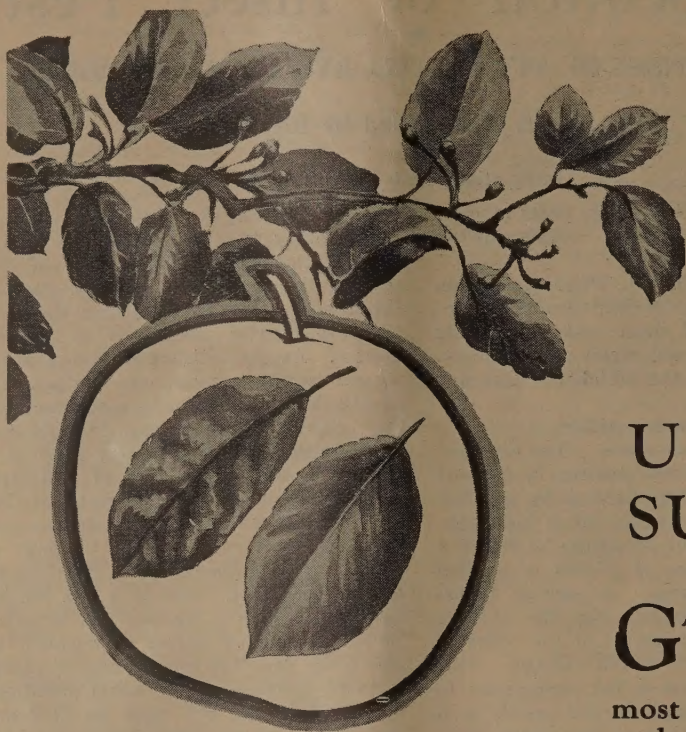
The other type of equipment is for electrocution of various insects in the soil by the passing of electric current through the soil, thus causing the temperature to rise sufficiently to kill all insects. At the altitude of this country we can secure a maximum temperature of 210 deg. F. The energy consumption for raising the temperature from 60 deg. to 210 deg. is approximately 9/10 of a Kwh. for each cubic foot of soil sterilised with the soil at a density of that for growing plants and a moisture content satisfactory for the potting of plants. This method of soil sterilisation takes two forms. One is a box sterilisation on which a wooden box is partitioned with metal plates into which the soil to be used for the potting of plants is to be sterilised. The metal partitions or plates in the box have an alternating current voltage which is applied to the alternate plates, that is 1, 3, 5 and 7 are connected to one side of the circuit and plates 2, 4, 6 and 8 to the opposite side of the circuit. The spacing of the plates may vary from two to ten inches for a voltage of the order of 220. Such a type commonly used here is a box with a depth of ten inches with an inside dimension of 18 in. x 18 in. with plates spaced three inches apart. Such a unit will take a demand of 10 to 15 kw., and will reach a temperature of 210 deg. F. in approximately six minutes.

Greenhouse Soil Sterilisation.

Another form of sterilisation is to put metal plates directly in the greenhouse benches and apply the voltage to them. The spacing we have found best for this operation with a voltage of the order of 220 is a 6 inch spacing the soil texture and fertiliser, particularly ammonia nitrate, will effect this spacing very radically.

common species of *Haplothrips victoricensis* in order to establish certain necessary details regarding the biology of these insects. General observations have been made on several species of blossom inhabiting thrips commonly associated with *T. imaginis*.

A bulletin has been prepared giving the systematic classification, description and important biological notes of fifteen of the common Australian species of thrips. The majority of the species dealt with are of considerable economic importance. When published, this work will be a useful contribution to our knowledge of this important group of insects.



LEFT.—Sprayed with Inferior Oil.

RIGHT.—Sprayed with Gargoyle WHITE Spraying Oil.

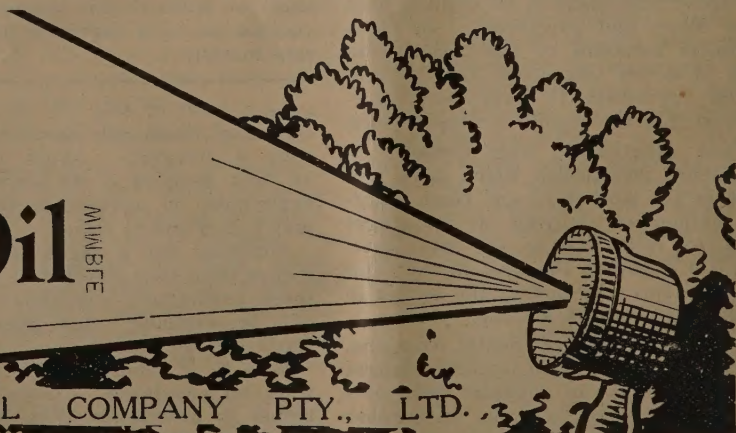
USE THE SAFE SUMMER SPRAY

GARGOYLE WHITE SPRAYING Oil gives safe and lasting protection; because, firstly, it is made from the most highly-refined medicinal oil base, and, secondly, it spreads evenly and thoroughly over the leaves and bark.

In addition to being a sure safeguard against scale and all other insect pests, Gargoyle WHITE Spraying Oil has a beneficial effect on the general health of the trees. Its "emollient" action improves the flow of sap, and the "breathing" of the leaves.

These claims are facts, proved by an increasing number of orchardists throughout this country.

Gargoyle
WHITE
Spraying Oil



VACUUM OIL COMPANY PTY., LTD.



Export of N.S.W. Oranges to the United Kingdom

1933 AND 1934 SEASONS — LESSONS AND SUGGESTIONS.

"Criticism of N.S.W. Oranges Made Without Sufficient Knowledge."

FOR SOME YEARS PAST growers and organisations in the Citrus industry have been concerned at the steady increase in production, and the decreasing market values of their fruit.

With only a small proportion of the fruit being marketed in New South Wales through organised channels, the prospect of successfully handling a still greater production was far from bright.

The "Report on the Present Position and Future Prospects of the Citrus Industry in Australia," prepared by the Development Branch of the Prime Minister's Department, and issued in 1930, sets out very clearly the position in all States, and estimates that by 1936 there will be under normal conditions, an annual surplus of at least 1,000,000 cases of Oranges above the estimated local consumption.

The actual production in the seasons 1933 and 1934 has proved that this estimate of the surplus production is, if anything, on the conservative side.

At the time that this report was compiled the New Zealand market was available, while there was a possibility that Canada would also absorb a portion of the surplus.

In December, 1932, New Zealand prohibited the entry of all fresh fruits from Australia. This embargo was modified in August, 1933, to permit of small shipments of Oranges from South Australia in that year, and in 1934 some 110,000 cases from South Australia have also been admitted. The embargo is still in force in regard to the other States of the Commonwealth.

Owing to the lack of fast transport with efficient refrigerated space, to Eastern Canada, where the bulk of the population is situated, it was found that

Canada would not be able to absorb any great quantity. Small shipments have been sent to Vancouver each season for the past four years, but the market in Western Canada is very limited indeed, while the high rail freight prevents the sending of Oranges overland from Vancouver to the Eastern cities of Canada.

Some spasmodic efforts were made in the past ten years to export Oranges to the United Kingdom.

Owing to a lack of organisation there was no continuity in these shipments, which met with varying results.

Attempts have been made for the past 15 years to organise the Citrus growers into co-operative packing houses, but up to the present not more than 20 per cent. of the growers have come into this movement, despite the earnest endeavours of the leaders of these packing houses, and it would appear that some form of compulsion will be necessary if the industry is to be efficiently organised.

Realising the seriousness of the position,

in view of the heavy increase in production that must be expected in the next few years, some of the responsible men in the industry decided in 1933 to send shipments to the U.K. in order to gain the experience that would be necessary if appreciable quantities were to be shipped overseas and the local markets relieved.

With practically no organisation, difficulties were numerous, and one of the first was found to be the disinclination of shipowners to accept the carriage of Oranges, which were looked on as unfavorable cargo.

Eventually several steamers were offered, and approximately 70,000 cases

were exported in 1933 to the U.K., the bulk of the shipments going to London.

Generally speaking, the fruit arrived in good order, waste being negligible. A small proportion of the fruit was affected with stem end rot.

The first two steamers arrived to markets heavily over-shipped with Spanish Oranges, and prices were disappointing. For the remaining shipments values were satisfactory, Valencias on the whole returning growers prices above Sydney parity. The pack and quality were favorably reported on by the trade.

The Federal Government, as some recompense for the loss of the New Zealand market, agreed to guarantee growers against loss for all out of pocket expenses, including the landing charges and selling costs up to an amount of 13/- per case Australian currency, this being the estimated cost of marketing a case of Oranges in the U.K.

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Claims under this guarantee were mainly confined to the first two steamers, and the Government was not called upon to meet any great sum.

Following on the good reports from the U.K. and the generally satisfactory prices in 1933, it was decided to export about 200,000 cases from N.S.W. in 1934.

Arrangements were accordingly made to obtain the necessary space, and eventually accommodation for approximately 175,000 was booked up.

Unfortunately the season turned out to be a particularly wet one, the rainfall in some Citrus districts being a record for 75 years, and in cases almost double the average. As a consequence, the keeping quality of the fruit was adversely affected.

The continuous rain also interfered with the picking and packing of the fruit, and resulted, in some steamers, in the middle of the season, not obtaining the quantity originally booked.

In addition, as reports of the early steamers discharging the Oranges in bad condition came to hand, growers cancelled their bookings, and eventually a total of 146,571 cases was despatched for the season as per list of steamers herewith.

At the time of this report, eleven (11) steamers, which sailed from Sydney up to September 14, have arrived, while five are still on the way.

The out-turn of the boats which have so far discharged in the U.K. with one or two exceptions, has been most disturbing. While undoubtedly the wet season was to some extent responsible for the condition on arrival, it also seems that there must have been other contributing factors.

Steamers which loaded within one week of each other, and took exactly the same time on the voyage discharged their fruit in quite different condition. A fair proportion of the Oranges in each boat were from the same orchards, and this points to the need of close investigation by scientific authorities so that the present methods can be improved.

Values in London in the early part of the season ranged from 10/- to 14/- for sound fruit, and moved up at the end of August to 17/-, remaining round this figure during September. In October, however, owing to heavy arrivals of South African Oranges, the market came back to 9/- to 12/- per case, and these prices are ruling at the date of this report.

These are two outstanding features in regard to the Citrus industry of New South Wales—

- (1) The absolute necessity for some new markets to absorb the very heavy increase in production.
- (2) The definite need for an efficient organisation to handle export shipments in the future.

In regard to No. 1, the U.K. at present seems to be the chief hope, pro-

vided that Oranges from Australia can be landed in good condition.

There are distinct possibilities also in Scandinavian countries, and also in Northern Europe, provided certain difficulties which have arisen through the incidence of the Australian tariff policy could be overcome.

There has been some unfavorable criticism of N.S.W. Oranges this season, most of which was made without any complete knowledge of the subject.

The fact remains, however, that quite a good percentage of N.S.W. Oranges have arrived in the U.K. in from fair to good condition, while most of the Oranges shipped were of splendid quality at the time of shipment.

As details to hand only cover the out-turn of seven shipments, it is too early to give a full report, but it would appear that the Oranges which were processed before shipment generally arrived in much better condition than untreated fruit.

If this also proves to be the case with the later shipments it may be necessary, if the export trade is to be built up, for the Federal Government to lay down certain conditions, if the guarantee is to be granted.

The export of Oranges on a large scale is a new business, and it is only natural that difficulties will be encountered, but these will have to be overcome if export is to be of assistance in disposing of the heavy increase in production.

After close contact with the exporting of fruit for many years, the following matters are suggested as requiring attention if export is to continue—

- (a) The necessity of inspection being done at the point of packing.

(At the present time inspection is done at the wharf and is unsatisfactory from the growers' point of view, and also from that of the shipping companies.)

- (b) The latest date at which the different varieties of Oranges can be shipped.
- (c) The restriction of shipments to steamers which are scheduled to arrive at destinations within six (6) weeks, and which have efficient refrigeration systems.
- (d) Provision for more suitable pre-cooling accommodation.
- (e) Regulations for careful handling and correct stowage.
- (f) The possibility of negotiating with the U.K. and South Africa for favored treatment on the U.K. markets for South African and Australian Oranges during the months of May to November.
- (g) Reductions in the present heavy charges to shipowners to be passed on, in the way of reduced freights.

—P. S. MACDERMOTT.

Sydney, October 31, 1934.

Assistance to Mandarin Growers.

Claims to be Lodged Before December 15.

The Minister of Agriculture for Victoria, Mr. Allan, stated recently that growers of Mandarins who desired to participate in the amount of £216 to be distributed in Victoria on behalf of the Federal Government, could obtain the necessary claim forms from orchard supervisors at Horsham, Kyabram, Mildura, Shepparton, Swan Hill and Rochester or direct from the Fruitgrowers' Relief Committee, 605 Flinders-street, Melbourne, C.3.

Payments under the Act are restricted to growers who claim in respect of Mandarin trees grown in Victoria and in bearing at June 30, 1934.

To facilitate the handling of the claims, it is urged that claimants should comply strictly with the following conditions:—

1. Supply all information required on the special claim form—this must be written in ink; incomplete forms will not be accepted.
 2. Have the declaration on the form attested by a Justice of the Peace or a Commissioner for taking Declarations and Affidavits.
 3. Forward the completed claim form to the Orchard Supervisor for the district before December 15, 1934.
- Late claims will not be accepted.

SHIPMENTS OF ORANGES FROM SYDNEY TO THE U.K. and CONTINENT, 1934.

Date.	Vessel.	Cases.	Port.
5/6/34	Ascanius	2,928	Glasgow
16/6/34	Idomeneus	7,348	L'pool. & Glasgow
3/7/34	Barrabool	8,794	London
28/7/34	Albion Star	13,351	London & Liverpool
31/7/34	Bendigo	16,577	London
18/8/34	Orama	16,848	London
24/8/34	Cathay	14,122	London
7/9/34	Port Alma	9,453	London
11/9/34	Strassfurt	4,209	Antwerp
12/9/34	Pt. Adelaide	9,299	London, & L'pool. & Hull
14/9/34	Buteshire	17,402	Hull, London, & L'pool.
21/9/34	Somerset	6,064	London
2/10/34	Leuna	2,000	Antwerp
3/10/34	City of Brisbane	4,500	London
4/10/34	Otaio	2,871	London
10/10/34	Stuart Star	10,805	London, & L'pool.

146,571

The Valencia Late Orange in Victoria

By J. L. Provan, B.Agr.Sc., Horticultural
Research Officer.

(Reproduced by courtesy from the
"Journal of Agriculture," Victoria.)

OF ALL THE SEED ORANGE varieties grown commercially in Victoria the Valencia Late is the most popular. The Valencia, as it is so frequently called, achieves this distinction because of the high quality of its fruit which ripens after the Navel Orange crop is harvested. The late maturity of this variety extends the Orange season through the summer months, and, in addition, provides a good supply of fruit during the months of October and November when there is a comparative scarcity of other classes of fruit. In South Africa and California the Valencia Orange is grown extensively, and is now practically the only seed Orange recognised as a commercial possibility.

Its keeping qualities, together with its maturity period during October and November, make it a very desirable fruit for the export trade, especially to the British markets where supplies of Oranges are not so plentiful during these two months, and if we are to succeed in establishing an overseas market we must pay particular attention to this variety. Nearly all growers in Victoria plant a portion of their grove to the Valencia Late Orange, and the large, upright and vigorously growing trees can be readily distinguished from the flat and pendulous habit of the Washington Navel trees.

A peculiar habit of seed Oranges generally is their tendency to be alternate croppers, i.e., they yield a particularly heavy crop one year and practically nothing the next, and the Valencia, unfortunately, also possesses this disadvantage.

The Valencia Orange, like the Navel, is parthenocarpic, i.e., the tree is able to set fruit without pollination, and indeed pollination seldom results in a heavier crop, but only assists the formation of seeds in fruit which would otherwise be practically seedless. This explains, why in some cases, growers who have mixed groves find that their Valencia Oranges are more seedy than those of their neighbors.

Soil and climate also have their effects on the seedlessness or otherwise of the fruit, and it has been observed frequently that trees which were isolated produced abundant seeds, due chiefly to the climatic and soil conditions favoring the development of viable pollen. In this respect the Valencia is comparable

with the Washington Navel Orange and the Eureka Lemon, the flowers of which frequently contain no pollen and yet set heavy crops of fruit.

Origin of the Valencia Late.

At this stage it may be interesting to review briefly the history of this popular Orange. It originated apparently in the Azores, and Thomas Rivers, an English nurseryman, imported and catalogued it in 1865 under the name "Excelsior." In 1870, an American nurseryman named Parsons bought several trees from Rivers and planted them in his nursery in Florida. E. H. Hart, of Federal Point, Florida, obtained trees

laborer named the tree "Valencia Late." When it was discovered that the two varieties were identical, the now well-known name, "Valencia Late," was adopted.

The earliest introduction of any variety of Orange to Australia was due to the foresight of the Chaplain, the Rev. Richard Johnson, who accompanied the "First Fleet" under Capt. Arthur Phillip in 1787. Mr. Johnson obtained seeds at Rio de Janeiro, and on arrival sowed them at Kissing Point, New South Wales. It is recorded that these trees produced fruit which was sold for as much as one shilling each. It is quite likely that



Valencia Late Orange Trees, 24 years old, worked on Sour Orange stock.

from Parsons and popularised the variety, and it became known as Hart's Late or Hart's Tardiff, and the name Excelsior joined the list of forgotten fruit varieties. Oranges from these trees were exhibited in Florida in 1877.

California obtained the "Excelsior" from two sources. About 1870-72, Chapman, of San Gabriel, imported a number of varieties from the English nurseryman Rivers, and several Californian nurserymen introduced Hart's Late or Hart's Tardiff, as it was then called, from Florida. In the collection of trees imported by Chapman there was one tree wrongly labelled "Navel." This turned out to be a late Orange, and a Spanish

one of the Chaffey Bros., of Mildura, was responsible for introducing the Valencia to Victoria, as well as to the Murray districts of South Australia. In 1888, one of the Chaffey Bros., probably Charles, brought out from California two Washington Navel and two Valencia Late trees which were given to Mr. William Chaffey, of Mildura. The Washington Navel was already being grown in New South Wales, but at this period records of the Valencia are wanting.

To what age will an Orange tree live? This is a question which is very difficult to answer. In Spain it is recorded that there is a tree over 150 years old. The oldest Victorian Orange grove must



Citrus Grove of Mr. T. W. Wenham, Wangaratta.

be that of Mr. T. W. Wenham, of Wangaratta. This grove originally comprised 20 acres of Parramatta seedlings, and was planted by Mr. Bryan in 1864. In California there is a five-acre grove of Valencia Late Oranges now 54 years old, and still in an excellent state of health and productivity; some of the trees have a trunk diameter of 64 inches, and yield as much as 33 bushels of fruit. In Mildura there are several small groves of Valencia Late Oranges which are nearly 40 years old, and these trees produce fine crops of good quality fruit.

The Valencia may be harvested during October and November, when it ripens, or it may hang on the tree until March or April, and supply the demand for Oranges during the summer months, when incidentally prices are more favorable to the grower. In many groves and districts, however, the Valencia Orange, after it has obtained full maturity and color, will revert to the green color, although internally the fruit is perfectly ripe. From a marketing standpoint this color change is undesirable and growers usually adopt one of two alternatives; they either market the fruit before the color change occurs, or they treat the fruit, after it has reverted, with suitable concentrations of ethylene gas in gas-tight chambers under favorable temperature and humidity conditions. Fruit so treated for a period of two or three days has the Orange color restored. There is a good deal of speculation as to whether this color change is a characteristic of one strain of Valencia or whether it is due solely to the root stock and environment. A series of experiments commenced two years ago at Mildura will assist in solving this problem. These experiments chiefly consist of collecting buds from as many sources as possible, in order to include what appear to be

numerous types or strains

of the Valencia Orange, and budding them on to old trees in order to place them in the same environment. By this means the effects of soil differences and cultural treatments on the quality of

the fruit will be eliminated and responses to seasonal conditions can be studied.

Alternate Bearing Valencias.

Further remarks on the alternate bearing of the Valencia are necessary. It cannot be expected that the trees each year should yield crops equal to the heavy crop, nor would it be possible to induce trees to yield so heavily. The solution appears to be in the direction of encouraging a lighter crop in the year in which the heavy setting is expected and a larger crop in the following year. In so many Valencia groves at present the trees during the heavy crop year undergo such a severe depletion of stored food products that little or no fruit is produced the following year. This depletion is so severe that frequently the trees show only very small amounts of blossom.

In order to overcome this habit, several practices suggest themselves as being worthy of trial. The principal one, of course, would be

a judicious thinning

of the newly set fruit in the season when the heavy crop is expected. This thin-

ning is an essential feature of many Peach, Apricot, and Mandarin plantations, and, although costly, it is worthy of a trial in Valencia Orange production. Heavier fertiliser applications during the heavy crop year may also improve the crop in the succeeding year.

Pruning of citrus trees

is a much neglected practice in Victorian citriculture, and it is certainly one which repays the time so spent. When possible pruning should be completed before growth commences in the spring. The year of the light crop is an opportune time for pruning the Valencia, and the best month is August. An alternative system is that of pruning after the heavy crop has set, say, in November; but such a pruning, although it may remove some of the newly set fruit cannot be regarded as having entirely the same effect on the tree as thinning the actual fruit.

With pruning, some leaves as well as fruit must be removed, and this is the reason why growers, who prune with the intention of thinning the crop in order to increase the individual size of the fruit are often disappointed. If fruit and leaves are removed, little alteration in size of fruits will be noticed; but if fruit only is removed, then the leaves are enabled to provide storage material for the remaining fruit. Pruning should consist of "skirting" the trees until all limbs within a foot to eighteen inches of the ground have been removed, and the cutting out of unwanted watershoots, crossing limbs, diseased and dead wood, and a judicious thinning of the foliage where it has become too dense. The Valencia seldom bears fruit in the centre of the tree, and therefore thinning, on similar lines to Navel Orange tree pruning, is not warranted.

The control of red scale on Valencia Orange trees is a particular difficulty in



A Valencia Late Orange budded on to a Beauty of Glen Retreat Mandarin. Note: The fringe of the Mandarin remains until growth from the buds is established.

some localities, because the matured and the developing fruits are hanging side by side. Growers who experience this difficulty are advised to adopt the dual or combination programme, i.e., fumigation, followed later in the season by a white oil spray wherever the infestation is heavy.

Re-working and Root-stocks.

With regard to re-working other varieties of citrus trees to the Valencia Late variety it may be mentioned that departmental experiments have been quite successful with Oranges, Lemons, and Mandarins, and many hundreds of trees have now been rebudded with Valencias.

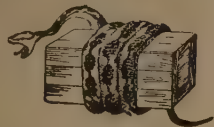
The question of root-stocks for Valencias, as well as many of the factors influencing the quality of the fruit is of importance. Generally speaking, the Valencia Late Orange, even when budded on the rough Lemon root-stock, is a hardier tree than the Washington Navel Orange. The Valencia has been more successful than the Washington Navel in the Goulburn Valley districts, where it produces particularly heavy crops.

A recent development

in the cultivation and irrigation of citrus groves is the introduction of a disc cultivator having one set of discs extended laterally and protected by a metal cover so that it can pass under the fringe of foliage without damaging the fruit or branches, which merely brush over the cover. In this way the soil beneath the trees can be lightly cultivated and weed growth suppressed. By means of an additional attachment an irrigation furrow can be made beneath the trees. With large trees, and particularly Valencia Late trees, which do not possess the same tendency for the branches to reach to the soil level as does the Washington Navel, this implement is valuable for increasing the fertility of the soil beneath the trees. One grower by manuring, cultivating, and irrigating this soil succeeded in doubling his yield.

THE EFFICIENT

PYTHON WIRE STRAPPING MACHINE



Has a pre-determined tension, giving a uniformity of the unequalled by any other machine, and by this means will tie as many cases with 10,000 feet of wire as any other machine, and more efficiently.

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Air-conditioned Oranges

Successful Storage in California.

The following is an extract from the report of the Trade Commissioner in London (Mr. C. F. G. McCann) received by the General Manager, S. Aust. Govt. Produce Dept. (Mr. G. A. W. Pope):—

Investigation has been made in U.S.A. regarding air-conditioned storage of Oranges and other citrus fruits, according to the "Californian Citrograph." The investigation was carried out on a commercial scale in a specially constructed building which contained two rooms each measuring 20 ft. x 40. Fresh air was supplied at 350 cubic feet per minute and the result shows that Navel Oranges held at 50 deg. F. showed 1.09 per cent. decay and fruit at 65 deg. F., showed 2.18 per cent. decay after four weeks storage—the humidity of the air supplied was 95 to 98 per cent.

The result of this preliminary investigation which was arranged to ascertain a more economical method for storing fruit over periods, shows that whilst not conclusive, it indicates that with proper air conditioning facilities the flavor, grade and keeping qualities of Navels from Central California can be greatly improved.

A prominent Californian citrus grower, encouraged by results so obtained, intends to place his entire crop of Grapefruit in air-conditioned storage this year. The article states that there seems to be no reason why other fruits should not be stored successfully when suitable conditions of temperature, humidity and air movement are available.

AMERICAN APPLE MERCHANTS PLAN A BIG CONVENTION.

The organisation of a large convention of Apple merchants is already well under way in California. Executive committees have been formed and plans are maturing to make the January, 1935, Convention in San Francisco one of the largest yet held. The large St. Francis Hotel has been booked outright, but several other nearby hotels will be needed to accommodate all the delegates who will attend.

All merchants are being asked to use the special letterhead that has been approved for publicity purposes, and 50,000 have been distributed.

As with all American conventions, the social programme will cater for all tastes, and will include special arrangements and entertainments for the women delegates and wives of the merchants attending.

Visitor from South Australia

Benefits of Harmonious Interstate Trade

Mr. J. Turner, of Blackwood, South Australia, called at the "Fruit World" office during November. He also attended the annual meeting of the Thrips Investigation League, made calls on members of the trade, and Government departments, besides visiting fruitgrowing districts.

Mr. Turner was interested to discover the method by which Victoria had distributed the 1933 Fruitgrowers' Relief Grant, as South Australia had not yet been able to do so. Mr. J. M. Ward, Superintendent of Horticulture, was able to give details of Victoria's procedure.

The newly formed Victoria Mark Fruit Co. also claimed Mr. Turner's attention, and details were obtained to see if the system could be applied to South Australia. Mr. Turner states he believes in trade co-operation,—growers, merchants and retailers. The grower should receive "a fair deal," and with this basis in mind, the other sections of the industry could work in harmony.

On the subject of Interstate unity and organisation, Mr. Turner holds the view that harmonious Interstate trade is desirable. For instance, South Australia was glad to receive Victorian Potatoes, while Victoria benefited by being able to receive South Australian Celery and glasshouse Tomatoes.

At his Blackwood orchard, Mr. Turner grows largely stone fruits, particularly Peaches, early, mid-season and late, for local markets, also Nectarines. He is a member both of the South Australian Fruitgrowers' and Market Gardeners' Association, also the South Australian Fruit Marketing Association, and is an active worker in both organisations.

COMMERCIAL NEWS.

J. Fielding & Co.

Bonus Issue to be Made.

At the annual meeting of J. Fielding & Co. Ltd., carton manufacturers, Sydney, shareholders authorised the directors to call the necessary extraordinary meetings of the company to enable them to distribute £18,000 as bonus issue, representing one new share for every ten already held.

The subscribed capital of the company at the close of the year on September 30 last was £180,000. At the last annual meeting of the company in November, 1933, the directors were authorised to increase the nominal capital of the company from £180,000 to £300,000 by the creation of 120,000 new shares of £1 each.

Australian-made Wood Wool.

An Enterprise of Interest to Fruit-growers and Exporters.

In the past, large quantities of wood wool have been imported into Australia for use in packing fruit and other products. As a result of the regular demand for this product, the Willow Products Co., of Newstead, Launceston, Tasmania, decided to produce a wood wool which would take the place of the imported article. A modern factory was established at Newstead in close proximity to the forest where the raw material is obtainable. The timber is obtained ten miles from Launceston, and is brought in logs 6 feet in length and approximately 6 inches in diameter. After being stripped it is docked to the required size for the cutting machines. The timber is selected according to the grade of wood wool required, and after it has been cut it is elevated to a deodorising and bleaching plant. It is then passed through steam-heated rollers and conveyed to a steam-heated air drying plant. After passing through this process the product is automatically weighed into bales of 1 cwt., and with an automatic geared press, is compressed into bales with a pressure of 60 tons to the square inch. The bales are then cleated and tied with three ribbons of wire strapping and seals.

Special attention is given to the manufacture of a grade of wood wool suitable for fruit and egg packing, and it is interesting to note in this respect that a product is produced which is claimed to be better and cheaper than the imported article.

It is a mistaken idea that wood wool makes packages look untidy, because South Africa, which country has captured practically the whole of the specialised fruit trade of England, uses tremendous quantities of wood wool in the packing of their fruit. In some cases each separate fruit is packed in a nest of wood wool. In addition, high-class fruit receivers in England and European markets recommend the packing of wood wool at tops and bottoms of cases. The out-turned condition of fruit packed in this way has been most satisfactory, and growers have benefited by higher prices.

Exporters of Grapes for overseas markets should also take into consideration that during the last few years most successful shipments have been made to the U.K. and to the East by using wood wool packing, which is much cheaper than granulated cork. Reports from importers have indicated that Grapes packed in wood wool have arrived in a most satisfactory condition.

Wood wool has many uses for other classes of packing, in addition to fruit. For instance, very fine wood wool is used for the packing of high-class jewellery, silverware, crystal and crockery. This grade is also used for filling in confectionery boxes, and in many instances has taken the place of paper.

Straw is rapidly being displaced by wood wool for packing, the main reason being that the resiliency of wood wool is considerably greater than that of straw. In addition, straw is unhygienic, and a carrier of diseases and pests from one country to another. Wood wool, being deodorised and bleached, cannot become contaminated or infected with disease, germs or pests.

The proprietors of the Willow Products Company, whilst paying special attention to producing a grade of wood wool suitable for fruit packing, are also in a position, because of the fact that the supply of raw material is practically unlimited, to produce wood wool for packing in practically every industry.

NEW FOLDING FRUIT BOX.

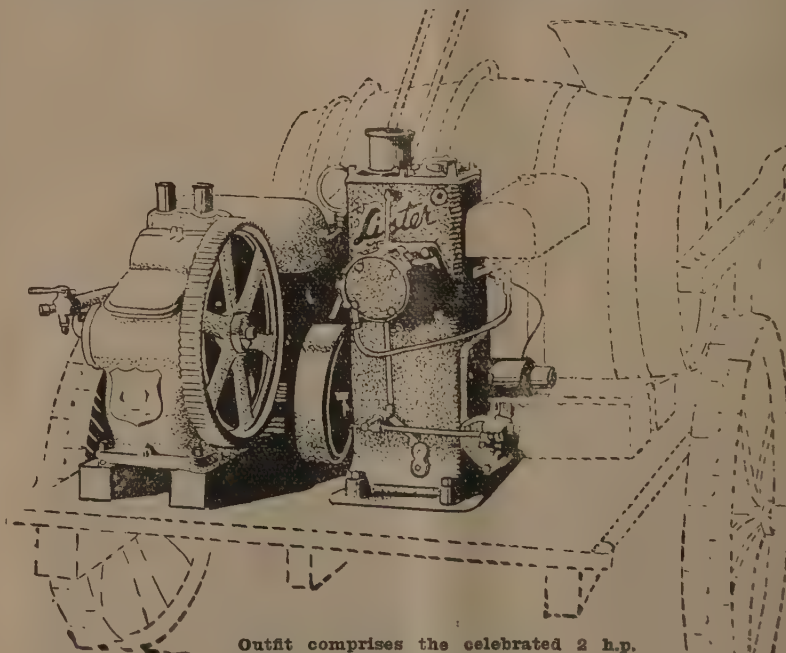
American fruit growers are experimenting with a new folding fruit case. The case is collapsible, which reduces its shipping size, when empty, to an eighth, and facilitates stacking for storage. It is intended primarily for Apples, Pears, Peaches and Plums, and has been very favorably reported upon by growers, shippers and wholesalers.

APPLE LEAF HOPPERS.

Apple leaf hoppers are destructive pests in orchards. It is important to use a contact spray to kill the pests before they reach the winged stage. The N.S.W. Department of Agriculture advises using one pint nicotine sulphate in 75 gallons of water: spray all parts of fruit and foliage, especially the undersides of leaves. This spray can be used with the calyx or later applications of lead arsenate. In some seasons it is necessary to spray again four weeks after first application. There are two main generations of leaf hoppers each season.

In a Class of its Own:

Lister - Myers Spray Outfit



Outfit comprises the celebrated 2 h.p. "Lister" Engine direct-coupled to a "Myers" Self-Oiling Pump. English Oak Cask, Steel Non-skidding Wheels on Transport. Suitable for Guns or Hoses. Free Estimates given for Stationary Spraying Plants.

A. G. Webster & Sons Ltd., Hobart

FROST DAMAGE

Successful Experiments with Solid Fuel Heaters

By E. A. Williams, Kerang, Vic.

AN INCREASING REALISATION of the toll taken by frost has turned the thoughts of many to ways and means of overcoming this menace. In a small way and with varying amounts of success some attempts have been made, but in this country no determined efforts have previously been made to cope with frost damage on a commercial basis, although in many other parts of the world frost damage prevention is standard practice. Smudging has been tried here by some growers, but it must be remembered that this method can only be moderately successful. Smudging only creates a very small amount of heat—the main effect of a smoke screen being to retard the escape into the upper air strata of heat generated during the day by the sun and stored in the soil and plants, and in the event of a severe frost this method cannot be very successful, and to be even partly successful, smudging must commence long before danger point is reached.

It is necessary, therefore, to have some method of providing or generating direct heat. For this purpose wood fires have been tried, and, while they may have been successful, the method is uneconomic and very cumbersome, especially in cases where a series of frosts have occurred, entailing fresh supplies of firewood daily.

The use of oil heaters has also been tried, in the form of open pail burners. While undoubtedly this plan of generating heat offers many advantages, especially regarding renewals of fuel, easy lighting, etc., the heavy dense smoke generated by these heaters is a severe handicap to their use, especially in the case of Citrus and other evergreen crops. Oil heaters are largely used in America, although in many instances they are being replaced there by solid fuel heaters, but, in any case, the cost of the oil in that country is only a fraction of the cost here. Owing to "smoke ordinances" in America, preventing the use of any heater emitting a certain degree of smoke, open pail heaters are not used there, but a "distilling" type of heater is used, whereby the oil is turned into gas and burned without smoke. These burners, however, are fairly costly, and until such time as a large demand exists for them, could not be manufactured economically in this country.

Having in mind the necessity for some cheap and efficient type of heater, Messrs. Egan & Williams, of Gonn

Crossing, Victoria, have been experimenting for a long period, both on oil and solid fuel heaters. The oil heaters have been moderately successful, but the cost of crude oil is high. The solid fuel heaters, however, seem to meet the needs of most growers in that their initial cost is light, and the low cost of operation brings their use within the reach of all growers who have a valuable crop to protect. A practical test of their utility and possibilities was recently carried out under the supervision of an officer of the Victorian Horticultural Department (Mr. Duncan Brown), and the salient points of his report are subjoined, and this report proves beyond doubt that their use enables growers to protect their crops against damage by the severest of frosts.

No longer is it necessary for growers to stand by impotent, knowing that one frost is going to destroy overnight, the results of the previous twelve months work and preparation, with its attendant cost.

The toll taken by frost in this country is not quit realised, especially in the case of permanent crops, where the damage done to trees and vines in one season seriously affects the crop for the following season.

Growers of annual crops, such as Beans, Peas, Tomatoes, Tobacco, etc., also growers of vines, Citrus, Sugar Cane, Passion-fruit, etc., should investigate the question of these heaters and their possibilities as it affects their particular problems.

The heaters

used are simple in construction, but possessing several distinctive features. They consist of two parts, the cylinder, with grate which contains the fuel, and a top part which fits on to cylinder, comprising a draught cone, stack and damper. For storage purposes, the top portion can be inverted and placed in the cylinder. The heater is made to burn any solid fuel, such as briquettes, coke, charcoal, or coal, the only alteration necessary for any fuel other than briquettes being a special grate. The brown coal briquettes usually used burns to a very fine ash, and requires a grate with smaller spaces between the bars than the other fuels. To secure the maximum amount of burning from coke, charcoal or coal, it is necessary to clean the grate towards the latter part of burning, and for this purpose a patent "raker" grate is provided.

The cylinder, previously mentioned, has two slots, one on either side, with sliding doors. These slots are only operated when it is necessary to obtain a maximum heat in a short time. Otherwise the draught, and rate of burning is operated by raising or lowering the dampers on top of the stack. The cylinder will hold 25 lb. of brown coal briquettes, which will give

five hours' burning

at a maximum rate. By controlling the rate of burning, the necessity for which would depend on the incidence of the frost, this can be lengthened to six or seven hours. This, in normal conditions, would be sufficient for any but the most severe frosts. If a further period should be required, it would be an easy matter to refuel with a few pounds more, from convenient stacks of fuel, either by dropping the fuel through the stack, or by lifting off the top portion of the heater by special asbestos gloves.

For lighting purposes a few kindlers are placed on the top of the briquettes, the cone and stack of the heater being lifted off, and the kindlers ignited by means of a kerosene torch from the top. For the other solid fuels mentioned it is found more satisfactory to light about six inches from the top. For this purpose special kindlers are made, and placed opposite the slots in the side of the cylinders, and the torch applied there. These special kindlers are very efficient, especially for lighting coke, and are inexpensive. No trouble is experienced in the actual lighting of any fuel, and the heater generates considerable heat in fifteen to twenty minutes. The method of control of burning merely consists of raising or lowering the dampers on top of the stack, which operate inside by means of spring standards.

Brown coal briquettes

prove a very satisfactory type of fuel, owing to their standard size and quality, as well as their low cost. They are also easy and convenient to handle. Assuming a cost of 30/- per ton, which would be an average price for towns up to 150 miles from Melbourne, the cost, per heater, for a full night's burning, would be 4d. At 35/-, 4.68d., and at 40/-, 5.35d. per burner. Where briquettes are not available, coke and charcoal are excellent fuels, the heaters holding approximately twenty pounds of each. Their use, of course, would depend on their availability and price.

The heaters are constructed of heavy gauge iron throughout. The period for which they could be used would naturally depend on the treatment and care accorded. Two hundred or more hours of burning should be obtained without difficulty, provided reasonable care was taken. To conserve the heaters it would

be an easy matter to treat them after the season's operation, and before stacking away, by dipping them in a bath of tar, or some other rust preventive.

The cost of the heaters would naturally be spread by growers over the period of their use and service. Tenders are now being called for their manufacture, and it is expected that the cost will be within commercial possibilities, and that, spread over their period of service, the cost per heater should not be more than one shilling per annum.

Condensed Report of Tests of Orchard Heating.

Carried out at Mr. Egan's grove, Gonn Crossing, Victoria, under the supervision of Mr. Duncan Brown, of Victoria Horticultural Department, on July 21, 1934.

Location of Burners.

Test was carried out on one acre of Mandarins, using 49 heaters to the acre. Heaters were arranged so as to have one heater to two trees, except on southern side, where one heater was placed to every tree to counteract the cold air drift.

Fuel.

Twenty-five pounds of brown coal briquettes were used to each heater at a cost of 4½d. per heater.

Firing and Control.

Firing was started at 1.12 a.m., all heaters being lit by 1.25 a.m. A smoke screen was created by closing down dampers, as it was anticipated that the frost would be of long duration, and it was desired to take advantage of a smoke screen to retard the fall of temperature, so as to reserve the fuel for the colder period before sunrise. At 2.45 a.m. all the heaters were burning exceedingly well, and were red hot. At 3.30 a.m. it was desired to create extra heat to cope with the falling temperature, and this was accomplished by operating draught slots provided for this purpose.

Thermometers and Placement.

Six tested thermometers and a thermograph were used, and placed four feet from ground level, except No. 2, which was one inch from ground level, and the thermograph with check thermometer 3 ft. from ground. Nos. 1, 2 and 3 were placed outside 20 ft. south side of plot No. 4 on N.W. corner; No. 6 in position well away from any influence of heaters to ascertain the minimum temperature registered, and No. 5 placed near thermograph in centre of plot.

The following table of readings indicate the fluctuations of temperature and the effect of the heaters.

Thermometer Reading.—Thermometer readings were taken at different times, and were as follows:—

	Thermometers.						Thermograph.
	1	2	3	4	5	6	
	1 in. High.						Check.
1 a.m., before test	30	29	30	30	29.2	29	29.2
2 a.m., half hour after firing .	31	28½	31	32	31	30	30
2.45 a.m.	31½	28	32	33	34	28½	31.5
3.15 a.m.	31	28	31	32½	34	28	33.5
3.30 a.m., extra heat							
4 a.m.	30	27	31	34	35	27	35
4.45 a.m.	31	30	31	34.5	35	28	35
5.30 a.m.	32	31.5	32	35	35	30.5	34.7
6.10, heaters out	32.5	32	31.5	36	34.5	31	34
6.30 a.m.	32	32	31	34	33.5	31	32

Weather Conditions.

The night was very still, with at first a faint south drift, which changed later at 2 a.m. to a faint south-east drift, followed at 2.30 a.m. by a slight haze. At 3 a.m. conditions were quite clear, drift still from south-east. At 4.30 a.m. conditions were very still, and smoke from the only oil burner was rising perpendicularly, and a slight fog was falling. At 5.30 a distinct drift from the south-east was experienced, followed by a very slight breeze from the same direction, which gradually raised the mercury, until at 6.30 a.m. the outside temperature had perceptibly risen. It was noted at 4 a.m., when the extra heat, by opening the air vents at the sides of burners was given, that, while the temperature on thermometer No. 2 one inch from the ground on the exposed side, and on check thermometer No. 6 had fallen from 28 deg. to 27 deg., the temperatures on Nos. 4 and 5, which were mostly influenced by the burners, had risen from 32.5 deg. to 34, and from 34 to 35 deg. respectively.

A comparison between Nos. 5 and 6 will show clearly the results obtained by the use of the burners where it shows a

difference of up to 8 degrees in temperature.

Reading on Evening Before Test—

5.30 p.m.	52 deg.
6. p.m.	47 deg.
7.30 p.m.	43 deg.
10 p.m.	36 deg.
10.45 p.m.	34 deg.
11.30 p.m.	32 deg.

Cleaning of Heaters.

All heaters were cleaned out during the day on which the test was taken, and less than half a bucket of ashes was obtained from the lot.

The heaters were again filled with briquettes in preparation for another ex-

pectant frost on the following night, but after waiting until 3.30 a.m. a slight breeze arose from the south-east, accompanied by light clouds, raising the mercury from a minimum of 32 deg. to 35 deg., and the tests had to be abandoned.

RED APPLES FOR EGYPT.


That Canadian Apples are becoming popular in Egypt is a statement recently made by the Canadian Government Information Bureau, London.

Until recently Egypt was not seriously considered as a potential market for Canadian Apples, but when the quality became known it was not long before Egypt became the fourth largest consumer of that popular fruit. The value of exports of Canadian Apples to Egypt in 1933 was £27,035. During 1933 a trial shipment of Canadian Apples consisting of Gano, Baldwin, and Ben Davis was made in hampers. This shipment was well received, and it is felt that the Gano in particular will become popular in Egypt, as red Apples are in demand.

APPRECIATION FROM NEW ZEALAND.

(Editor, "Fruit World.")

Sir,—The monthly copy of the "Fruit World" is always welcome, for its contents are not only interesting but valuable.—McKee & Sons, Tasman, Nelson, N.Z.

Made in Australia 

A Low Cost for Material does not mean a low finished cost

GERRARD

Machines and wire-seal strapping check well in the real test of economy:—

- 1—INEXPENSIVE TO INSTAL . GERRARD
- 2—NO UPKEEP COST . . . GERRARD
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 **APPLE AND CITRUS PACKING CHARTS ARE AVAILABLE FREE ON APPLICATION—GERRARD SERVICE**

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PATENT ATTORNEY
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MELBOURNE.

Thrips Investigation League

Valuable Report at Second Annual Meeting.

THE SECOND ANNUAL MEETING of the Thrips Investigation League was held at the Commercial Travellers' Association on November 20. Mr. J. W. Bailey presiding.

An apology for non-attendance was received from Dr. A. C. D. Rivett, through family bereavement. It was decided to send a letter of sympathy to Dr. Rivett.

Apologies were also received from Messrs. G. W. Brown, J. B. Mills, J. M. Ely, D. Grant, Prof. Wadham, and F. Cave.

The annual report was presented by Dr. J. Davidson, Chief Entomologist, Waite Research Institute, who is in charge of the thrips investigation. (See full report elsewhere in this issue.)

Mr. A. F. Thiele asked the effect of spring frosts on thrips population.

Dr. Davidson replied the spring frosts had no effect: during cold weather they were simply dormant. A dry winter, however, made it difficult for the thrips to carry over.

Mr. Mellor stated that if autumn, winter and early spring conditions favored a thrips infestation, could recommendations be made for their control?

Dr. Davidson said that a bulletin was in course of preparation which would give full details of the progress of the investigations to date, and recommendations to growers.

Dusting with a repellent had proved best so far: tests were being made with sprays, realising that growers had more equipment for spraying than for dusting.

In reply to Mr. Thiele, Dr. Davidson said that by using $\frac{1}{2}$ lb. of the dust per tree the cost would be 3d. per tree for each application. Thrips were most active in hot weather. A single dusting had been shown to keep thrips away for two days.

In moving a hearty vote of thanks to Dr. Davidson, Mr. Thiele stated he realised the importance of the work. It was useless to attempt to protect blossom by killing thrips during a plague year. The only chance was to provide a suitable repellent.

Mr. F. R. Mellor, in seconding the vote of thanks, said that the problem of thrips was evidently a most difficult one. It was good to know, however, that the problem was being tackled in a thorough manner. By finding a remedy to keep the pests away while the blossom was setting the names of the investigators would go down to history as benefactors.

In support, the chairman stated he was very interested indeed in the work

of thrips investigation. He felt sure Dr. Davidson and his colleagues were working on right lines.

The vote of thanks was carried with acclamation, and Dr. Davidson suitably responded.

The financial statement was received and adopted on the motion of Messrs. Mellor and Thiele. At the instance of Mr. Mellor, a hearty vote of thanks was carried to the chairman.

The Garden Compost Heap.

A Source of Valuable Manure.

THE GARDEN COMPOST HEAP is a cheap means of converting garden and household vegetable refuse into valuable fertilising material. Materials such as lawn clippings, spent crops free of disease, vegetable tops, etc., should all be used in this manner, but the coarse, woody stalks of strong-growing plants should not be used (states the N.S.W. Dept. of Agriculture).

The production of artificial manure from garden waste, straw, etc., consists in the decomposition, by fungi and bacteria, of much of the plant material. The nitrogen in the process is converted from an inorganic to an organic form, and is present in increased amount in the material finally produced. The rapidity with which the process goes on is influenced by the type of material, its degree of maturity and chemical composition, and by the presence of nutrients such as lime, phosphate, nitrogen and potash, for the organisms carrying on the decomposition are much akin to plants in their requirements.

Actual damage can be done to crops, other than some legumes, by the addition of uncomposted, poor-quality material to the soil. This damage is due largely to a lack of available nitrogen in the soil. Such poor-quality materials as bush scrapings, dry mature grass or straw, offer a good source of energy for the soil bacteria and fungi, which rapidly increase in numbers, and in so doing consume all the available nitrogen. This competition for soil nitrates results in the nitrogen starvation of crop plants.

The usual process of allowing plant refuse to decay without any chemical treatment results in a very acid product, providing no immediately available nitrogen. With nitrogen-poor plant residues it becomes necessary to add available nitrogen to the heap, as well as lime, which prevents the development of acidity, and phosphate, which is required in the nutrition of the organisms. With nitrogen and mineral-rich materials such as legumes (Peas, Beans, etc.), green vegetable tops, and other green

succulent material, the use of lime alone should be sufficient to enable rapid decomposition.

How to Make a Heap.

With general refuse or poor-quality material, a heap can be made on a square base, and of such size that the final height is about 3 feet. Spread the chopped-up material in layers several inches deep, treating each layer in the following manner:—

Snow over with ground limestone (5 lb. per 100 lb. material), fork in loosely, give a sprinkling of superphosphate, and then add sulphate of ammonia at the rate of $1\frac{1}{2}$ lb. per 100 lb. material. The material should be moistened before building up the layers, if not already moist. Ammonia may be given off slowly, so that it is necessary to keep building up and treating the successive layers quickly, so that it will not be lost. The final layer is not treated, and may be given a covering of an inch of soil. When next the heap is added to, the untreated layer can be moistened and treated.

When the heap is at the full height, after subsidence due to compaction and loss of material by bacterial action, the heap can ferment under the untreated capping, which can be used as a base for the next heap. The heap should be kept damp, but water should not be added in quantity sufficient to cause drainage from the heap.

In summer the material should be ready for use after two months, but in cold weather the process is much slower.

Artificial manure properly prepared is very similar in chemical composition to composted horse manure, and gives equally good results in promoting plant growth.

RED GRAPEFRUIT.

A Grapefruit variety having a watermelon—red flesh, has been developed in the Sacramento Valley, according to reports coming from America. It is supposed to get its peculiar color from the soil in the district in which it is grown, and already merchants are asking for this novelty, which is expected to become very popular. Dr. J. B. Webb, the originator of the variety, has had it under observation for several years, and has propagated it on to a number of his Pink Marsh seedless trees. Showing pink through the skin the fruit has an uncommon appearance and, in the opinion of merchants, offers tremendous possibilities in popularising the new variety.

"YOUR STERLING PAPER."

Mr. A. Bruce, of Birdwoodton, Vic., writes, on November 21: "We greatly appreciate your sterling paper."

“Willow” Brand Woodwool

Prevents the Bruising of Fruit

Overseas Receivers specially recommend the use of “Willow” Brand Woodwool on the Tops and Bottoms of Fruit Cases.

“Willow” Brand Woodwool is made in Australia, being treated under a patent process, and securely packed in Bales containing 1 cwt.



View of a portion of the Willow Products Co.'s factory at Launceston, Tas., showing raw material ready to be treated

Special Qualities Suitable for Fruit Packing

FRUITGROWERS! Use “Willow” Brand Woodwool and ensure the safe arrival of your Fruit on the Home Market

Special types of Woodwool also manufactured for the packing of Grapes, Tropical Fruits, Confectionery, Eggs, Crockery and Ironmongery, and all heavy goods.

— Special Grades for Toy Manufacturers and Upholstering. —

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Phone: MA 5122.

DRIED FRUITS—NEWS and NOTES

Sales in Great Britain

The chairman of the Commonwealth Dried Fruits Export Control Board (Mr. W. C. F. Thomas) reports that, during the fortnight ended November 22, 1934, 726 tons of Australian dried fruits were sold in Great Britain.

Of Sultanas 376 tons were disposed of at an average of £37/17/10, and 317 tons of Currants averaged £27/3/3 per ton.

Irymple.—Mr. P. Malloch, manager of the Irymple Packing Pty. Ltd. advises as follows under date October 10.

Sultanas.—The bud burst of the Sultanas vines this year gave promise of an excellent crop. Late frosts on September 27, October 1 and 5, caused heavy damage, particularly in the Red Cliffs and Merbein districts. It is estimated that the aggregate loss of Sultanas in the district will amount to approximately 7,000 tons, to value of £140,000. It is calculated that the crop has been reduced from 37,000 tons to 30,000 tons.

Currants.—The Currant crop at bud burst also showed promise of an excellent crop. Currants have not been so seriously affected with frost as were Sultanas, and it is estimated that the crop will be only slightly under that of last year, 7,750 tons.

Lexias. — As with Currants. Lexias showed a good crop at bud burst and have not been so seriously affected with frost. It is estimated that the crop this year will be similar to last year, approximately 4,000 tons.

Later. — In the Red Cliffs district a very heavy hail storm occurred on October 23, and caused severe damage, mostly to Sultanas, a low estimate being 2,000 tons loss in that area. This, on top of frost, will reduce the crop to approximately 28,000 tons of Sultanas for the whole district.—P. Malloch.

Horticulturist (at telephone): Hullo, What's that, you can't get my name?; it's Smith. S for sempervivum, M for mesembryanthemum, I for indigophera, T for Tetratheca, and H for Hannemannia.

I beg pardon—Who's a maniac? Ring off, please.

Raisins and Currants

Australia Second Largest Producer.

By comparing the total population of the world with the total consumption of dried fruits in some form or other, statistics prove that 11½ ounces per person per year would represent the world's consumption. The United States of America claims to be the largest consumer of dried fruits, every person in U.S.A. eating on an average 2.71 lbs. every year. The disparity between the world's average quota of 11 ounces and the American consumption of say 35 ounces suggests that dried fruits are not being consumed in some countries in as great volume as they should be or that our method of marketing and distribution is still a long way behind where it should be, and that the consuming public

WE DON'T BELIEVE HIM.

A grower recently wrote in stating that he would sooner do without his tobacco than miss a copy of the "Fruit World."

We don't believe him, but we appreciate the compliment.

of the world should be educated to the value of dried fruits as food.

Of the world's grand total of Raisins, California produces most with 180,000 tons per year, Australia coming next with 65,000 tons. In the Currant production of 157,900 tons per year, Greece easily leads the way with 139,000 tons, followed by Australia with 19,000 tons per year. Thus in both cases, Australia ranks second in world production.

A forecast for 1935 seems to indicate that a decline of 91,000 tons in world production of Sultanas as compared with 1934, with a corresponding decrease in the Australian crop, will mean higher prices, according to impressions gathered at the 12th annual meeting of the Australian Dried Fruits' Association recently held in Melbourne.

The total Australian crop for 1935 has been estimated at 66,833 tons, comprising 42,540 tons of Sultanas, 17,345 tons of Currants and 6,948 tons of Lexias.

EAT MORE PRUNES.

The food value of Prunes is not as fully known as it should be. Dr. G. H. Whipple, of the University of Rochester, U.S.A., found that they contain 300 units of Vitamin A, 14 units of Vitamin B, and 56 units of Vitamin G per ounce of Prunes. Prunes possess a substance that has a definite activating effect on the digestive tract. If more Prunes were included in the family diet, there would be less need for pills and drugs to offset the wrong eating by members of the family.

Drying Persimmons

Experiments by the U.S. Department of Agriculture have shown that Persimmons may be readily dried in an evaporator at a temperature of 122 degrees F. Fruit for drying should be firm rather than soft ripe, or it will be mushy, and stick to the tray.

Steaming before drying prevents darkening of the natural color during drying, but sulphuring to retain color, is not advisable, as it causes the fruit to retain its astringent taste.

The best product is that which is peeled and sliced before drying, but, because of the extra labor many do not peel them, and quartering the large fruits and halving the small ones is almost as good as slicing.

The small, dark-fleshed varieties do not make a very high quality product. If the fruits are peeled with nickel-plated knives there is not the staining that occurs when iron knives are used. The fruit should be sliced at right angles to the axis.

In China and Japan they have adopted the following method: Sound fruit is selected with a "T" shaped piece of twig attached to each. They are peeled by hand. The fruits are then suspended on strong strings, two of which are twisted together as the fruits are slipped between the strings. The string full of fruit is hung in the sun or in sheds, and drying is complete in about three weeks. They are then placed in heaps for a few days and covered with matting, where they go through a sweating process, and the sugar crystallises on the surface.

The Dried Fruit Industry.

Universal Demand.

THE DRYING OF FRUITS represents one of the most ancient forms of conserving a seasonal harvest, and of preserving food for later use. These operations also had the effect of providing one of the earliest known trading commodities.

The oldest of all cultivated fruits is undoubtedly the Grape, for, in the world's oldest writings, we read of men tending the vine, and for at least 5,000 years there is record of Grapes having been grown for food—and drink.

In the less distant past we read of the Phoenicians using "dried fruits" for purposes of barter as well as a nourishing food for themselves and attendants, dried fruit being a compact commodity and easily carried. Furthermore, the seeds of the Grape have been found among the lake dwellings of the bronze age.

For several centuries, the drying of fruits was almost entirely confined to the Levant, but was gradually extended to

Greece and other countries further west along the Mediterranean. During the last half century, man has constantly improved the range of his fruit supply, and in the case of Grapes the original small stock has grown to over 1,000 classified varieties.

One very direct result of this broadening of varieties—and it applies in principle to all fruits—is that types suited to the varying climatic conditions of almost every country can now be provided, and the production of dried fruits has not only spread from the vines to the tree fruits, such as Peaches, Pears, Apricots, Prunes, etc., but also to many different parts of the world, and to-day's stocks are drawn, not alone from the original Levant, but from continents as far apart as America, Africa, Australia, etc.

Thus we find that to-day practically all the temperate zones of the world are abundant producers of fruit, which, in its dried state, can be easily transported, and, aided by fast steamers as well as by modern processing methods, dried fruit has become a commodity of importance in the food markets of the world.

The Predominant Grape.

Over the past centuries, dried Grapes in one form or another, have predomi-

nated, and to-day, despite the introduction of tree fruits, the Grape, in the form of Currants, Sultanias, or Lexias, easily heads the list. Notwithstanding the leadership of the Grape, however, a good deal of attention is being given to tree fruits, with perhaps Prunes and Apricots in greater demand, but such others as Peaches, Pears, Figs, etc., all find an appreciated market.

Scientific work in the direction of improving the stock from which the fruit is derived, has accomplished much, and perhaps the greatest achievement has been the production of the Sultana, or seedless Grape, which has become the greatest favorite, and constitutes the largest tonnage of any dried fruit now produced. Next in importance is undoubtedly the Currant—"Raisin de Corinth," principally grown in Greece, but was evolved, as its name suggests, in the districts surrounding the Gulf of Corinth.

The old method of sun drying is largely retained, as man has not yet been able to make an economic improvement on the natural method in that regard, although he has come to nature's assistance in one or two ways. For in-



Australian Dried Fruits Industry Publicity Van.

stance, most of the Sultanas, Lexias, etc., as soon as picked, are dipped in a lye solution, which has the effect of making minute cracks over the whole surface area, and in that way the evaporation of the moisture is greatly expedited.

Then, again, instead of the old-time method of hand work with the berries, the fruit is run through complex machinery which mechanically removes stems, caps, etc., and in some modern plants, the bulk dried fruit enters at one end and comes out at the other, cleaned, stemmed, packed, weighed, etc., ready for market.

Tree Fruits.

With the introduction of tree fruits, those in the market places have slightly altered descriptive terms with the object of avoiding confusion, and the term "dried fruits" now applies to Grapes, and "evaporated fruits" covers the whole range of tree fruits.

London is perhaps the centre which deals with the greatest quantities of dried and evaporated fruits, the imports of Sultanas, Currants and Lexias alone for the 12 months of 1933 totalling over 132,000 tons of which approximately half comes from Empire sources and half from foreign countries.

In Currants, Greece easily heads the list, with Australia next, but in Sultanas, Australia is easily first, with California and Turkey next in order.—("Primary Producer," S. Africa.)

APPRECIATION FROM STH. AUST.

(The Editor, "Fruit World.")

Your paper is a valuable one. I have been a regular reader for many years.—F. A. Wicks, Secretary Torrens Valley Citrus Co-operative Society Ltd., Payneham, Sth. Aust., 22/11/34.

RAISINS AND ICE-CREAM.

Capitalising the fact that Canadians have a partiality towards eating pies crowned with a scoop of ice-cream, the Australian Trade Commissioner in Toronto recently arranged for one of the large down-town restaurants to serve free ice-cream with each slice of Raisin pie made with Australian Raisins. A large display card in the windows of the Muirhead chain of restaurants called attention to the concession, and pie "a la mode," as it is termed in North America, when accompanied by ice-cream, became immediately popular. Doubtless the advertisement will benefit the sales of Australian dried fruits, already gaining satisfactory popularity in the northern Dominion.

PINEAPPLE JUICE MAY REPLACE SULPHUR IN DRIED FRUITS.

Commercial fruit driers have long met the darkening tendency of fruit by treating it with sulphur dioxide. The dried fruit, after the sulphuring, has a good color, but still contains considerable trace of the sulphur dioxide. To overcome this objection of consumers, experiments have been carried on to discover a substitute for the sulphur method, and the United States Department of Agriculture has recently announced what is claimed to be a better method.

Dr. A. K. Balls and Walter S. Hale, of the food research division, Bureau of Chemistry and Soils, have found that Apples will retain their original color if immediately after being cut they are simply sprayed with Pineapple juice, a by-product in the canning of Pineapples. In other words, merely by putting two agricultural products together, the value

of both commodities is increased. In agricultural technology such a combination of circumstances is rare. Usually an improvement in one direction is a loss in another.

The department has applied for a public service patent on the new process to make it available free to all residents of the United States.

SUGAR BEET IN ENGLAND.

Big Increase in Output.

Pembrokeshire farmers will benefit this year from sugar beet growing to the tune of £80,000.

More than 1,000 fields were employed in beet cultivation with 530 farmers concerned. Compared with last year the number of acres contracted for was 3,400 against 1,200.

New growers increased by 100 per cent. Individual crops ranged from one acre to 70 acres.

The most successful area was South Pembrokeshire. This autumn 40,000 tons of sugar beet will be sent away for refining.

Sunshine Harvesters. — Senator A. Meighen, a former Prime Minister of Canada, paid a visit of inspection to the Sunshine Harvester Works on November 14th. He remarked upon the great area occupied by this factory, and was also greatly surprised on being shown a "Combine," which was made in 1885. In America this term is applied to the combined harvester or reaper thresher, a machine which only came into general use in that country within the last 15 years, whereas it was invented in Australia as far back as 1884, and was in general use in our wheat fields from the year 1903 onwards.

In Preparing Your Bordeaux Sprays Use ...

ESA BLUESTONE

Manufactured by

The Electrolytic Refining and Smelting Company of Australia Limited
PORT KEMBLA, NEW SOUTH WALES

The Right Material for Plant Disease Prevention and Control
GUARANTEED 99% PURITY

GRADES—Mixed Crystals, Fines, Granulated (Snow), Packed in Suitable Containers for Growers' Requirements.

Agents for All States : ELDER SMITH & COMPANY LIMITED, All Capital Cities.

BOOKLET—"Better Yields by Spraying with E S A Bluestone" obtainable on application to Elder Smith & Company Ltd.

VALLO

Patent Codlin Moth Tree Bands



Certain Death to All Grubs That Attack Fruit Trees

It is estimated that of all Codlin Moths more than 80% are females and that a female moth lays as many as 50 eggs. On the assumption that only 50% of the eggs are fertile, a kill of 100 grubs in a tree band is definitely responsible for the prevention of 2,000 moths in the first year.



The above photograph (shows the actual size) inner side of an 8-inch section of "Vallo" Patent Codlin Moth Tree Bands in which 60 or more dead grubs and caterpillars can be seen. This, however, does not represent the full number of the kill, as this photograph shows only one set of corrugations. The Band is actually a double trap, as it not only traps the grubs in the corrugations lying immediately next to the trunk of the tree (as shown above) but a similar number are trapped and killed in the second series of small passages which are formed by the smooth outside section of the Band against the corrugated section.

Your Orchard is not adequately protected until fitted with "VALLO" Patent Codlin Moth Tree Bands.

Manufacturers: **VICTOR LEGGO & FARMERS LIMITED**
222 QUEEN STREET, MELBOURNE

BRANCHES: SYDNEY — BRISBANE — ADELAIDE — PERTH

VICTORIA — Crop Prospects.

Items of Interest . . .

Damage by Frosts

Ministers Visit Devastated Dried Fruit Areas.

OWING TO DAMAGE by frosts, relief is being sought for growers in Mildura, Nyah and Woorinen districts.

Mr. Dunstan, Minister for Lands; Mr. Goudie, Minister for Water Supply, and

THRIPS RESEARCH.

Funds Needed to Complete the Investigations.

The Australian fruit industry is to be congratulated on its enterprise and courage in setting the wheels in motion for a thorough scientific investigation into the thrips menace.

A particular word of commendation is due in this connection to the Victorian Fruit Marketing Association.

The remarkable results so far achieved have fully justified the effort.

The campaign was for three years. Funds were collected sufficient to pay for two years, but more is needed to complete the third year.

Growers and all interested should realise that it is a privilege to be associated with this exceedingly important enterprise.

Donations will be gladly received by the Secretary, Thrips Investigation League, Box 1095, G.P.O., Melbourne, Vic.

Mr. Horsfield, chairman of the Water Supply Commission, visited the affected areas on November 23. Practically 30 per cent. of the crop will be lost in the Nyah district, and 70 per cent. at Woorinen.

Mr. Pye, M.L.C., and Mr. F. E. Old, M.L.A., introduced a deputation consisting of Messrs. W. A. Allnutt and H. Marshall (Woorinen), J. Willoughby (Nyah), A. Rawlings (Merbein), R. Matthews (Mildura), and McKie (Red Cliffs), D. A. Cockcroft and A. R. Lawrence.

The deputation submitted proposals for financial relief from the State and Federal Governments, the Closer Settlement Commission to either reassess payments or waive them, and the Water Commission to suspend demands for payment. The deputation stated that the industry required £195,000, of which Mildura, Red Cliffs and Merbein areas needed £153,000, and Nyah and Woorinen £42,500. The packing sheds could not carry this huge burden.

Mr. Dunstan said his visit impressed him as to the serious state of the areas and the predicament of the producers, and promised that the matter would be considered by Cabinet. Mr. Goudie replied in a similar strain.

Crop Prospects

East Burwood. — Apple crops have thinned appreciably. The wet spring caused much shedding of bloom and young fruit. Black Spot has shown up noticeably in many orchards. The Apple crops will be medium to light. Where proper cross pollination was provided the setting is satisfactory, and good crops should be harvested. There is no doubt as to the value of cross pollination.

Shepparton (17/11/34).

Crop prospects are as follows:—

Apriots—Moorpark are generally light, other varieties medium to heavy. Hail damage approx 50 per cent.

Peaches—Very heavy.

Pears—Williams light to medium generally. Packhams and Josephines, heavy.

Apples—A good crop.

Plums—Medium.

—F. J. Akers.

Quantong. — Crop prospects at October 12 are as follow:—

Apricots: Light to medium, frost affected one or two crops.

Peaches: Medium to very good.

Pears: Medium to very good.

Plums and Prunes: Good.

Quinces: Medium to very good.

Almonds: Light.

Currants and Sultanas: Medium.

Tomatoes: Frost affected some growers, but most have been able to replant. Crop should be heavy.

Apples: Early lines (Cleo's, etc.) flowering very well. Later varieties appear to be medium.

—S. Jost, Junr.

Doncaster (22/11/34).—Re fruit crop prospects. The **Pear** crop promises a light to average yield, with the exception of Beurre Bosc and Josephine, which are very patchy, being a failure in some orchards; there is an average crop. Howell's are also rather light.

Black Spot has taken considerable toll, and many Pears will be russeted from overdoses of fungicide.

Apples: Not a great many grown in this district, but a very fair setting.

Peaches: Heavy, and growers are busy thinning them; Brown Rot will be troublesome if we don't get a good spell of dry weather.

Cherries: A good crop, many suffering loss from Brown Rot; this is clearing up with the better weather.

The weather has held up seasonal work, and with the return of good weather growers find themselves very busy with accumulated work, many not having finished ploughing.

—J. S. Gover.



Interested Fruitgrowers at a recent Grafting Demonstration at Harcourt, Vic.

Red Hill.

Situated 45 miles from Melbourne, on an eminence commanding views of the Port Phillip and Western Port Bays, also the Bass Strait, the Red Hill district is famed not only for its scenic magnificence but the fertility of its soil, particularly for the production of fruit and vegetables. For many years Red Hill was among the principal Strawberry growing districts in the State. In fact, Strawberries are now largely grown here, as pot boilers until the orchards develop.

The Red Hill district with its famous red volcanic soil produces Apples of high quality and rich coloring. The Jonathan Apple is specialised and experts aver that nowhere in the State are better Jonathans produced.

Other Apple varieties include Rome Beauty, Granny Smith, Delicious, Stewarts, Yates, etc.

It is estimated that the quantity exported is around 100,000 cases of Apples per annum. Large quantities are sent to interstate markets.

For the Melbourne market, motor trucks are used to convey the fruit for sale in the Victoria Market.

There is an abundant rainfall, though some growers have taken the precaution

of providing facilities for irrigation, particularly for their vegetable crop.

Vegetables are grown in substantial quantities around Red Hill, particularly Peas, Beans and Cabbages.

We were interested to pay a call on Mr. W. B. D. Jarman, a prominent and successful grower and one who as a provisional director of the Victorian Mark Fruit Co. has given much time in assisting this organisation.

Mr. Jarman has some 100 acres under fruit over half of which is devoted to the Jonathan Apples. Other substantial areas are devoted to the production of Peas, Beans and Cabbages. In fact, all of Mr. Jarman's 186 acres are under cultivation with the exception of about 15 acres of bush land.

In the growing of Peas the variety Green Feast is specialised, while the good qualities of the Canadian Wonder Bean is known, it is difficult to grow because of bacterial wilt. The variety Invincible, from Messrs. Law, Somner & Co., Melbourne, has proved best.

In the Cabbages the various varieties are grown according to their seasonal requirements.

Irrigation is supplied to the vegetable areas by means of an overhead system with water pumped up from the dam at the lowest portion of the orchard.

Mr. Jarman points out that owing to the climatic conditions, the codlin moth is not so troublesome as in some other parts of the State, in fact, three arsenical sprayings are deemed to be ample.

Red Hill possesses its own co-operative cool store, with a capacity of some 30,000 cases.

Red Hill growers have evinced keen interest in the Victoria Mark system for local marketing, and the progress of this organisation will be watched with the keenest interest.

The Red Hill district possesses many natural advantages, and the growers are progressive and enterprising.

Red Hill. — At a largely attended meeting of fruitgrowers on November 14, Mr. W. B. D. Jarman presiding, full details of the Victoria Mark Fruit system were dealt with by Messrs. F. Cave and R. E. Boardman.

The necessity for standardisation was stressed, also the advantages of advertising to increase fruit consumption. The new company would assist any effort to have the poorer quality fruit turned into by-products.

There was a good response to the request for new shareholders to sign up.

Cooper's ARSINETTE

(Superior Arsenate of Lead Powder)

No Finer Arsenate of Lead is Made

PACKED IN 112 LB. CASKS & 28 LB. CASES.

Prices Have Been Again Reduced.



WILLIAM COOPER & NEPHEWS (Aust.) LTD.
4 O'Connell Street, SYDNEY

— F. R. MELLOR, 440 ELIZABETH STREET, MELBOURNE. —

Reports from Kyabram indicate the expectation of a record Peach and Pear pack next season. Owing to heavy shipments during recent months, last year's pack will have disappeared before canning recommences.

Frosts in the North-West districts did considerable damage to Apricot, Peach and Prune crops. In some districts a 75-per-cent. damage to Apricots was reported. Tomatoes also suffered badly.

In the Goulburn Valley the hail storms early in the month did extensive damage to Apricots, some Shepparton growers losing most of their crop. Apple and Pear prospects are good for about a normal crop.

Good reports come from Swan Hill. Grape-fruit and Lemons showing best prospects to date. Although Navels and Valencia blossomed lightly, the former extending somewhat longer than usual, a good crop is anticipated.

Tyabb (29/11/34).—Unless one has unusual opportunities for careful studying of the crop of Apples, it would be difficult to estimate the probable crop this season.

Usually the natural and heavy shedding after the petals have fallen causes some alarm; this year there was a tendency to drop when Apples as large as small marbles.

This is speaking of Jonathan Apples. The setting, generally speaking, is somewhat patchy, though in many orchards there should be a medium crop of good-sized Jonathans.

An early forecast stated, "Apple prospects excellent." That was early, and was based on bud development, though as a matter of fact, until the marketing of only a good class of Apples has been adopted, a heavy crop of Apples is not to be regarded as an excellent prospect.

A fair amount of Black Spot is showing on the Jonathans, though that variety used to be regarded as comparatively free from liability to that trouble.

Lime sulphur has given good results, but this year, unless followed by a 2nd lime sulphur spray, it has not proved satisfactory, even where used at 1 in 15.

The Bordeaux spray, however, has given good results with one spray.

The addition of extra lime, where lime sulphur and lead are mixed, as recommended by Dr. Cunningham, certainly keeps the mixture from going black, if his directions are carefully followed.

Sedgwick.—In the Sedgwick district, which is between Harcourt and Bendigo, good quality Apples and Pears are grown. The principal varieties are Dunns, Cleos., and Jonathans. Pears—Packhams and Josephine. This year the crop so far appears to be medium.

Mr. J. S. Broadbent has 22 acres of the main varieties of Apples and Pears, also eight acres of Tomatoes.

Export Apple Packing

Presentation of Colombie Cup.

THERE was a large attendance at Favoloro's Cafe, Bendigo, on November 15, in connection with the presentation of the Colombie Cup for high quality export Apples. Mr. H. G. Colombie presided, and proposed the loyal toast.

Col. J. H. Lang, in proposing the toast of the Federal Government, said the urgent present-day problem was that of marketing. He emphasised the importance of the German market, and hoped the Federal Government would persist in its endeavours to keep that market open. Mutual trade was imperative, as no nation could "live unto itself."

Col. Harrison, M.H.R., in reply, said that the Ottawa Agreement provided for a preference of 4/6 per cwt. on Apples, but the preference from the British housewife could be obtained by merit and quality, hence the necessity for exporting only the best. Australia now had agreements with 17 countries, and other agreements were being negotiated.

The toast, "The Victorian Parliament," was proposed by Mr. J. H. Ely, and responded to by Mr. A. E. Cook, M.L.A. The Hon. G. V. Lansell, M.L.C., proposed "Success to the Apple and

During the evening the services of Mr. B. Krone, packing instructor, and Mr. W. H. Harris, assistant packing instructor, were favorably referred to.

A hearty vote of thanks to the chairman brought a pleasing function to a close.

Competition Details.

The winner of the cup was Mr. J. A. Catto, of Rheola, with 89 points out of a possible 105, while Messrs. Ford Bros., of Harcourt, were second with 87. The Bacchus Marsh Packing Co. third with 83.

The points gained by the place-winners were as follows:—

	J. A. Catto.	Ford Bros.	Bacchus Marsh.
Labelling . . .	10	10	10
Timber . . .	9	9	9
Wiring . . .	5	5	5
Wrappers . . .	5	5	5
Height . . .	5	5	5
Alignment . . .	5	5	5
Compactness . .	5	5	5
Wrapping . . .	9	9	9
Uniformity . .	9	9	9
Quality . . .	18	17	15
Color . . .	9	8	6
TOTALS . . .	89	87	83

The following firms were highly commended on their packs: Harcourt Fruit Supply Society, Somerville Packing



Flashlight photo at Dinner tendered Mr. H. G. Colombie, when the Apple Export Prizes were presented.

Pear Export Industry," to which the Hon. H. H. Keck, M.L.C., breezily responded. Mr. J. M. Ward, Superintendent of Horticulture, gave details of the 1934 Colombie Export Competition. The handsome cup was presented to Mr. J. A. Catto, of Rheola, by the Mayor of Bendigo, Cr. A. E. Staples. Certificates were presented to Mr. H. Ford on behalf of Ford Bros., Harcourt, and to Mr. Geo. Anderson, on behalf of The Bacchus Marsh Packing Co.

Mr. H. M. McLean proposed the toast "The Departmental Officers," and spoke appreciatively of their services. Mr. J. M. Ward responded.

Co., Binnak Orchard (Somerville), T. E. Butler (Pakenham), Harcourt Fruit-growers' Association, R. Bailey (Narre Warren), R. Webb (Narre Warren), J. W. Bailey (Narre Warren), Valley View Orchards (Pakenham), Paris Bros. (Garfield), J. J. Ahern and A. W. Black (Pakenham).

(Continued on page 703.)

Diner (studying the menu): "Bring me a wild fowl."

Waiter: "Sorry, sir, but we are out of wild fowl—unless you care to wait whilst I go out and agitate one."

Fruit Brokers and Auctioneers "FRUCHTHOF" Hamburg Germany

Consignments of Apples and Pears Solicited

Ph. Astheimer & Sohn

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The "Fruchthof" (Fruit Exchange) **Hamburg**, Germany
Offices and Salerooms of the Six Leading Fruit Brokers of Hamburg
No Other Brokers and Auctioneers Selling in the "Fruchthof"

HAMBURG

The Biggest Port on the European Continent

For Information apply to anyone of the above mentioned six firms

New South Wales News and Notes

FRUIT CROPS PROSPECTS.

New South Wales.

WRITING under date November 8, the N.S.W. Director of Marketing, Mr. A. A. Watson, states:—

Regarding comparison of the coming season's crop with that of last year, it is quite evident at this stage that the Apple and Pear crops in particular will be considerably heavier than those of last season. During December the State Marketing Bureau will issue a forecast of prospective yields of Apples and Pears and a review of crop conditions—copy will, as usual, be sent you.

In some districts it is too early to give estimates of crop settings.

Reports from the Bathurst, Goulburn, Burradoo-Moss Vale, Orange and Young districts indicate a very satisfactory setting of Apples, and heavy crops of many varieties are in prospect. At Goulburn, Granny Smith, Delicious, Jonathan, Tasma and Pomme de Nieve have set particularly well, whilst at Young the varieties showing the most promise are Granny Smith, Statesman, Tasma, Stone Pippin and Cleopatra. Jonathans are carrying only moderate crops of fruit in the latter centre.

Although the blossoming of Pears generally was heavy in many orchards, the setting was not so consistent as that of Apples. At Bathurst it was heavy, whilst at Goulburn and Young the crops are patchy: Williams are light in both districts. In the Burradoo-Moss Vale and Orange centres the crops range from medium to good.

In the Batlow area the blossoming was the heaviest on record, but weather conditions generally have been unsatisfactory and a heavy fall of fruit is expected.

Early Cherry crops were damaged by rain. The mid and late varieties in the main have set very satisfactorily in the principal producing centres.

Generally light crops of Robe de Sargeant Prunes have set, but D'Agens are somewhat better and should give medium yields.

Early Apricots were thinned out considerably by frosts.

Early varieties of Peaches are light in some orchards, but later maturing kinds generally promise to yield well.

Angelina Plums set good crops, whilst other varieties range from fair to heavy.

A heavy crop of mid and late varieties of Nectarines is showing in the Young district; generally crops are medium to good in other centres.

On the Murrumbidgee Irrigation Area, Apples are fair to good and Pears range from good to heavy. Although a heavy crop of Apricots set, the occurrence of severe frosts caused the fruit to thin out considerably; a good crop, however, still remains in the Yenda sector. The Peach crop is medium to good, and in some orchards heavy production is anticipated. Only light yields are expected from Robe de Sargeant Prunes. D'Agens have better prospects and on some trees heavy yields should be harvested; generally there is a medium crop of this variety.

The early Apple crop in Coastal districts is heavy in some localities, e.g., Kenthurst-Glenorie and Windsor; generally medium to good yields are anticipated.

Pears have set patchily, ranging from poor to good; heavy crops of "China" are in sight in the Windsor centre. Early varieties of Apricots are being harvested, but crops are very light.

The greater proportion of Peach crops promises to yield well; the early fruit is developing satisfactorily. Nectarines are also carrying good crops. Plums, on the other hand, vary considerably; in some locations good settings of fruit are in evidence, but in others the crops are patchy, generally medium yields should be obtained.

ORANGE, N.S.W.

(From Our Correspondent.)

As anticipated, the unseasonable conditions which prevailed at the period of blooming has seriously affected the setting of some fruits.

The frost and cold weather affected the Cherries, causing a partial breakdown in a small percentage of the fruit, which with the continued wet weather, set up a mould. Unfortunately this has been confused with the dreaded "fungus" which was prevalent in Cherries last season through the very wet season, and many growers adopted an intensive spraying programme with lime-sulphur solution and colloidal sulphur, with varying degrees of success.

Personally I do not think the extra expense involved is warranted, because with dryer conditions the mould will dry out, it will not spread like the fungus, and if the wet weather were to continue, no amount of spraying would control it.

The crops generally will be as under:—

Cherries—Early Lyons, medium; Florence, medium; St. Margarets, Napoleon and Black Republican, medium to good.

Plums—G. Duke and Ponds, medium to good; President, light.

Pears—B. Bosc, medium to good; all other varieties light to medium, there has been a heavy shedding in W.B.C.

Apples, all varieties are showing good to heavy crops, in some instances showing heavy, but I think there will be a heavier shedding in December, especially in Grannies, which will reduce all varieties to a normally good crop.

Pears and Plums will be much lighter than last season, Cherries not as good and Apples heavier.

Bathurst (20/11/34).—All varieties of Apples and Pears are showing very heavily. A considerable drop has occurred in most varieties of Pears and some Apples, but in most instances thinning is being resorted to. Fruit is well formed and a good size, while disease is not showing as yet. Black Spot is expected owing to a very wet spring for this district, but many orchards carried out the usual spring spray programme. Codlin Moth are not yet active, though, it is expected that they will provide their usual waste. No hail has yet made its appearance. — Gordon Edgell & Sons Ltd.

Goulburn (4/11/34).—At this date, according to a report by Mr. H. Mills, district fruit inspector, a record crop of Apples is showing.

Pears, patchy. In some centres the yields look like being very good, while in others the returns will be from medium to light.

Cherries, medium to heavy.

Apricots, Prunes, Peaches and Nectarines suffered from a severe frost. Where crops escaped there is a good setting.

Tenterfield (4/11/34).—Principal fruits grown in this district are Apples, Cherries and Peaches. In Apples, Granny Smith predominates, with Jonathans, Delicious and Democrats in order mentioned.

Chief varieties of Cherries are Early Lyons, Burgdoff's Seedling, and Early Rivers.

The Apple crop promises to be considerably heavier than last year.

Cherry crop, too, is very heavy.

Peach crop medium, with a fair amount of curly leaf in some orchards.

APPLES

London

KEELING & WHITE LTD.,
London Fruit Exchange,
Spitalfields, London, E.1.

Liverpool

ROGERS, WHITE & CO.
LTD.,
10-18 Victoria Street,
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Hull

Northern Fruit Brokers Ltd.,
WHITE & SON HULL
Branch,
Humber Street, Hull.

Manchester

Northern Fruit Brokers Ltd.,
NORTH OF ENGLAND Branch,
Commercial Sale Room,
Deansgate, Manchester.

Newcastle

WHITE & LEATHERLAND,
St. Andrew's Street,
NEWCASTLE.

Cardiff

MORGAN, WHITE & CO.,
Cardiff,
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Japanese Plums good, English varieties light; Apricots good.

Pears lighter than last year.

Up to the present the season has been all that could be desired, and where due attention has been given, trees look very vigorous.—P. Sommerlad.

FRUIT PROSPECTS ON THE MUR-RUMBIDGE AREAS.

FROST DAMAGE to all crops of fruit and vines was very serious, and during the early part of November the frosts were very severe. The damage done by same has been estimated at from 50 per cent. to 75 per cent. on farms where larger areas of Sultanas are grown, these latter delicate vines having suffered more severely than wine varieties.

With wine varieties, some of the base bud bearers have thrown out further buds which are carrying fruit bunches, and it is hoped that the estimate of damage done may not prove quite so severe as at first calculated, but the Sultana growers have undoubtedly suffered the worst, and in some cases Currants also were cut badly.

The Yenda area has probably suffered most, and stone fruit in some cases have also been badly cut. Apricots having apparently suffered worse than Peaches, and Robe de Sargeant Prunes are almost a complete failure. Even where this variety of Prune is planted alongside D'Agens, the loss is marked, and it is the general opinion that the frost is responsible for cutting the trees while in blossom, as they blossomed earlier than the D'Agens this year and probably were cut before any chance of pollination by bees from the other flowers was possible.

Angelina Plums which were set earlier, still are in many cases carrying good crops, while Robe Prunes alongside these are also cut.

Apricots.—These set very heavily, and in some cases the frost, while cutting the crop to some extent has thinned it out only and there still remain excellent crops of well-matured fruit on the trees, but in other areas the crop is almost an entire failure.

Peaches.—Fair to moderate crops, some early varieties of Peaches have set heavily, but in most cases the crop should give moderate returns of very good fruit.

Nectarines.—Moderate to light fruit should be very good sample.

Prunes.—D'Agens, medium to good crop, fruit should be large in size. Robe de Sargeant—practically nil owing to frost damage, in some cases very light crops of large fruit may be harvested.

Pears.—Williams and Packhams' Triumph—light crops.

Apples.—Granny Smith and Jonathan—Good to heavy crop. Other varieties—Light.

Oranges.—Washington Navels — Apparently set fairly heavily, but it is yet too early to make any definite estimate of crop, but it will be probably very fair. Valencias — Generally extremely light blossoming, and the crop will undoubtedly be very light.

Lemons.—Fair to medium, many trees are still carrying very heavy crops of fruit, owing to the poor prices which have prevailed during the season, and this will probably affect the next setting.

Grape Fruit.—Medium to good.

Mandarins.—Medium to light blossoming.

Sultanas.—Very light crops likely to mature, owing to frost and black spot has also shown up.

Currants.—Moderate to fair crops, frosted in some areas.

Wine Varieties.—Estimate of loss approximate 50 per cent. of the original showing. Some patches of vines have made remarkable recovery and have thrown out fair crops of bunches from dormant buds, so that there may be a slightly better crop than was at first estimated after the frost damage. Black Shiraz seems to have suffered less than some other varieties, but are not carrying heavy crops, even now.

Gordo Blanco Muscats have not suffered to the same extent as other vines, and will probably throw out fairly good second crops.

Canning Fruits.—Probably all or the bulk of canning fruits will go to the cannery this year in preference to drying any, as there appears to be a great demand for Apricots, Plums, and Peaches for canning this season, and the prices obtained by growers for their dried products last year were decidedly unsatisfactory.

All stone fruits should be of exceptionally good quality this year.—Griffith Correspondent.

STORMS AT ORANGE.

Rain and Hail Inflict Severe Damage.

Torrential rain accompanied by hail-storm, inflicted severe damage to young fruit crops in the Orange district.

Messrs. Nancarrow, Coote, and Roweth, the assessors of the indemnity fund recently established by the Orange Producers' Co-operative Association, estimate that the damage will run into several thousands of pounds. In addition to all varieties of fruit being damaged, channels feet deep have been washed in many orchards, and thousands of tons of good soil washed away.

Orchardists suffering most damage include: Messrs. A. L. White, M. Hawke, Z. Morris, S. Brooking, H. Morris, Fitzgerald Bros., E. L. Sampson, E. Hoskins, A. E. and B. Culverson, G. Manchester, H. Pearce and J. B. Coutts.

Rail Charges on Fruit Cases.

Mr. G. A. L. Wilson (Dubbo) asked in the N.S.W. Legislative Assembly on November 15: Is it a fact that the Railways Department has imposed charges on returns of empty fruit cases of 6d. per half-case and 10d. per bushel-case from Sydney when sent singly; if so, will the Minister for Transport endeavour to have these charges either abolished or considerably reduced?

Lt.-Colonel Bruxner (Transport Minister): I am not aware that a special charge has been made on empty returns, but the whole question of charges on shooks and fruit cases was reviewed some time ago by the Railway Commissioner after consultation with the various interests concerned. However, I shall bring the hon. member's question under the notice of the Commissioner and let him have a reply later.

A NEW WRAPPING FOR FRUIT.

In an earlier issue we reported the success of wrapping Granny Smiths in oil paper under experiments carried out by the N.S.W. Department of Agriculture. The tests claimed to have lessened the loss to about 2 per cent. in oil paper—wrapped Apples as compared with the loss of nearly 20 per cent. in Apples wrapped in sulphide papers and embedded in wood wool over a period of six months in cool storage.

Now comes a report from Arizona (U.S.A.) on Grapefruit wrapped with a new substance known as Pliofilm. This material is thin, orange-colored and looks like cellophane, but is very tough and elastic. It will stretch to several times its own length and is impervious to air or moisture. Grapefruit wrapped in Pliofilm lost only about 4 per cent. in weight in six weeks and were plump and firm when examined, whereas unwrapped fruits had lost nearly one-third in weight in the same period and were leathery and uneatable.

"BACKYARD" ORCHARDIST FINED.

Campaign Against Fruit Fly in N.S.W.

THE CAMPAIGN to check Fruit Fly is being vigorously pursued in N.S.W.

The first prosecutions in Sydney against backyard orchardists for failing to spray Loquat trees to destroy fruit flies were undertaken at Ryde Court on Thursday, November 15.

Six persons, two of whom stated they were not aware of the proclamation ordering them to spray trees, were fined 2/6, with 8/- costs.

QUEENSLAND.

Redland Bay (Nov. 21, 1934). — The main crop here at present is **Tomatoes**. Very heavy consignments have been going forward to Sydney during the last three weeks; it is expected that most of the crop will be finished in about another fortnight. The crop in general has been a heavy one, and of extra good quality. Some growers adopted the trellis method of growing them this season, and although doing so entailed much more initial work, the results have proved so satisfactory that probably next season growing Tomatoes on trellis in this district will be general, while the quality of the crop has been good, the prices obtained for same have hardly been satisfactory.

The **Citrus crop** finished here about three weeks ago, like most everywhere else in Citrus areas. Although the crops were heavier than for some years, the prices have been disastrous. The coming

crop promises to be a very light one, especially **Oranges**; **Mandarins** are showing fairly well at present, but nowhere up to last season's crop.

Pineapples are showing a fair crop, but the area of this crop is fast decreasing on account of the ravages of the cane beetle; this grub eats all the roots off the plant, like it does **Sugar Cane** in the north.

Several areas were planted with **Bananas** here last season, and although prices have been, and will continue to be so for a long time yet, very unsatisfactory, several areas are being planted this season. This district was famous for its **Bananas** some forty years ago, and was the only crop grown then; and although other crops took their place for a number of years the different areas that have been planted recently are producing as good fruit as they did in the early days.

Custard Apples are an unknown quantity yet, having only just lately started

their spring growth. This fruit does not set until about the New Year, and must have a hot, even temperature to do so, or else the crop will be very light.

Vegetable Culture.

This district twenty years ago was purely a fruit growing district, but of recent years much of the fruit growing has given place mainly to vegetable growing: **Tomatoes**, **Cabbage**, and **Carrots** are the main crops grown now; taken altogether, perhaps **Cabbage** growing is the most profitable of all the crops; it is only a three-month crop as a rule, and with a little extra care can be grown every month of the year. — James Collins.

Stanthorpe (22/11/34). — Stanthorpe has a big crop of fruit in practically all varieties, and the ground is full of moisture, which will help to fill the crop up. The season will be on the late side, as our days and nights have been on the cold side for this time of the year. If the moist conditions prevailing continue much longer it will favor both **Brown Rot** and **Fly**. Our prospects would look much brighter if normal summer conditions would prevail for December. This district, like others, I am pleased to say, is endeavouring to grapple with the **Fly** menace seriously. — H. M. Jones.

GAS FOR SHELLING WALNUTS.

The use of ethylene gas for shelling Walnuts will greatly speed up the removal of husks from the stick-tight nuts and save the browning of the kernels, according to E. M. Chace and D. J. Sorber, of the American Department of Agriculture in Los Angeles.

Experiments which they have been conducting for the Californian Walnut Growers' Association, at a cost of only £300, will save the growers something like £75,000 annually.

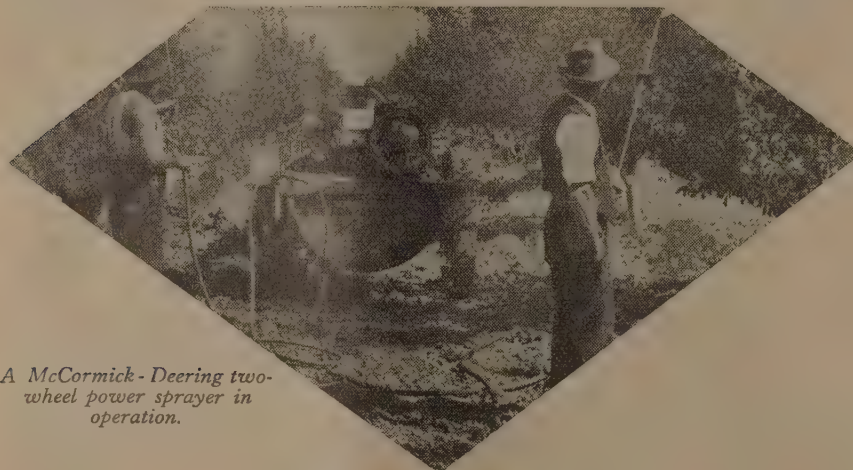
So valuable is this method thought to be that the Department has applied for a public service patent that will make it available free to all growers in the United States.

BOX 1944 G.P.O.

A circular letter recently received from the Deputy Director, Posts and Telegraphs, requests that we ask our correspondents to use the Post Office Box number in preference to the street address as this facilitates sorting and guarantees our receiving our mail more expeditiously.

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CANNED FRUITS

Canned Fruits Control Board.

Messrs. Fairley & Stafford Elected.

The Minister for Commerce (Dr. Earle Page) announced that the term of two years for which the two representatives of producers were elected to the Canned Fruits Control Board, expires on December 8.

Nominations had been called for candidates for election to the vacancies to be caused by the retirement of these members, the closing date for the receipt of which was November 9, 1934.

Dr. Page said that the only nominations received were in favor of the two retiring members, namely, Mr. A. W. Fairley, representing the co-operative canneries, and Mr. T. L. Stafford, representing the proprietary and privately-owned canneries.

These two gentlemen would, therefore, be re-elected to the Board for a further period of two years as from December 9, 1934.

Australian Canners Win Prizes in English Show

THE FOURTEENTH ANNUAL Imperial Fruit Show was held in Leicester (Eng.) from November 2 to 10, 1934, over 30,000 square feet of space was required to accommodate all the exhibits.

The main object of the show is to stimulate the consumption of fruit by showing the public in the larger industrial centres the wide range of fruit that is produced in the United Kingdom and the British Dominions, consequently a show is held every year in such cities as London, Birmingham, Leicester, Manchester and Bristol.

One feature of this year's show was a complete canning plant showing the processing of Apples. Upwards of 2,000 cans were filled each day and the exhibit created great interest.

In the canning section the following Australian canners were awarded prizes:—

Canned Fruit.—Peaches, 2½ halves: Henry Jones and Co. Ltd., 1; Water Conservation Commission, 2; Shepparton Fruit Company, 3. Peaches, slices, 2½: Henry Jones and Co. Ltd., 1; Shepparton Fruit Co., 2; Australian Preserves Ltd., 3. Pears, 2½: Kyabram Co-operative Ltd.,

1; Ardmona Co-op. Ltd., 2; Shepparton Fruit Co. and Kyabram Fruit Co., equal 3. Peaches ½ size, one: Shepparton Fruit Co., 1 and 2; Henry Jones and Co. Ltd., 3. Peaches, one, slices: Henry Jones and Co. Ltd., 1; Shepparton Fruit Co. Ltd., 2 and 3. Apricots, one: Shepparton Fruit Co. and Kyabram Fruit Co., equal, 1 and 2; Ardmona Fruit Co., 3. Apricots, 2½: Water Commission, 1; Shepparton Fruit Co., 2; Kyabram Fruit Co. and Shepparton Fruit Co., equal 3. Pears, one: Shepparton Fruit Co. Ltd., 1, 2, and 3.

Dried Fruits.—Sultanas, bleached: Irymple Packing Co., 2. Unbleached: Irymple Packing Co., 1. Currants: Irymple Packing Co., 1; Swan Settlers' Association, 2.

Japan's Canned Fruit Trade.

Remarkable Progress.

The remarkable progress made by the Japanese fruit canning industry is disclosed in the figures supplied by the Japan Canned Food Association, in a recent issue of a Japanese newspaper. During 1929 the production of canned Oranges (including Mandarins) was 30,000 cases. In 1930 the figures were 35,000 cases. In 1931 the production was 65,000 cases. During 1932 the figures jumped to 150,000 cases, and last year the output reached 532,000 cases. It is estimated that the 1934 figures will at least equal last year's total, and it is predicted that the Mandarin, Orange canning industry will become one of the most prominent food industries of the Japanese Empire.

Canned Oranges.

The principal fruits produced in Japan are Pineapples, Peaches, Cherries, Pears, Oranges, Strawberries, and so on. Of these, the Japanese Orange canning has made sudden development in recent years.

Following the perfection of a method of mechanical peeling, coupled with the sudden rise of the demand abroad, the industry developed by leaps and bounds until to-day it occupies an important place in Japan's canning world.

The canned Oranges are found to be highly convenient in adding color and flavor to cakes and ordinary cuisine, increasing the purposes for which the food can be used.

Export.

The figures for 1933 show that the export of Japanese canned fruits is

reaching huge proportions, and owing to the cheap cost of production, must still further increase. The number of cases of canned Mandarins during 1933 that were exported was 117,497, and 93,974 cases of canned Pineapples were also shipped to other countries. The total of other fruits exported in cans was 14,248 cases. It will be of particular interest to Queensland growers to read that the production of canned Pineapples in Japan during 1933 was 1,015,165 cases.—J.L.C.

Canning Fruit is a Science

University Degrees Urged.

That the preparation of food for human consumption is quite as important as its production, and should be scientifically studied is the conviction of Colonel Heckstall-Smith, Director of Development of the International Tin Council.

Lecturing in London recently, he submitted that it was time that universities instituted a degree in the science of canning, and added:—

"Canning is now one of the most important sources of food supply in the world. Canned fruits are held to be in better condition and cleaner than many fresh foods served across the counter.

"It is necessary that this high standard be maintained and, if possible, bettered in the future. The only means of achieving this end is to recruit a large body of young scientists who will devote their time entirely to the canning of foods.

"It is for this reason that I ask, why not university degrees in the science of canning? We have agricultural and dairying degrees, and if it is sufficiently important to provide degree courses for those guarding the initial stages of production, why should not the final processes be similarly recognised?"

CANNED FRUIT IS SAFE.

According to Sir Arbuthnot Lane, the eminent London Dietitian, fruit is as good when canned as when fresh, provided of course that the processing has been properly done and sound fruit has been used. But since only the best unblemished fruit is accepted for canning this qualification can be largely overruled.

Sir Arbuthnot Lane, in recommending the use of canned fruits to English housewives, stated that the Australian pack has for a considerable time included not

???

QUERIES

???

QUESTIONS

???

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Victorian Growers ship through Fred J. Andrew, 153 William Street. Melbourne.

one single contaminated tin, although the export quantity is considerable. He further suggests that the time between the picking of the fruit and the canning of it, as well as the care taken and the simplicity of the few preparatory operations, make it impossible for the fruit to lose in either freshness or quality.

His conviction was that a comparison between the handling accorded to canned fruits and the handling and exposure to which fresh fruit is subjected leaves the balance in favor of canned fruit from a point of hygiene and safety.

BAKED APPLES IN CANS.

Although canned Apples have been available in U.S.A. for some considerable time, an innovation has recently been made by Rich-Bake Company by which baked Apples in a heavy syrup, ready to be served, will be put on the market. The method of processing is not yet announced except that the Apples will be baked and placed in the cans whole.

Only Apples of good size and quality will be used. These are cored, the seed cells removed, the Apples baked, syrup is added and the cans sterilised and lidded. The Apples are placed in the cans upside down so that when the can is opened the Apple may be placed on the dish right side up for serving.

An example of the thoroughness with which American canners introduce new lines to the public is seen in the equipment prepared for the new factory. This includes two revolving gas-burning ovens, one fruit washer and drier, one Apple grader, one fruit sizer adjusted for weight, and one mixer. It is expected that the American public will welcome this addition to the canned foods family and that the company, which already operates three canning plants, will extend its operations in baked Apples to other centres.

LARGE INCREASE OF CANNED FRUIT EXPORTS.

Australian Canners Active.

The figures for last export season of canned fruits to the United Kingdom are most satisfactory and show an increase over the previous year. During 1933/34 the shipments rose to over 900,000 cases, or 44 per cent. in excess of the previous season. Peaches did even better, and comprised about 50 per cent. of the total shipments of canned fruits. Pears also showed an interesting increase, 270,000 cases having been exported during the past season. Apricots, which had declined in recent years, last year made a good recovery. In cash value the total exports of canned fruits for 1933/34 was £949,212 or more than £200,000 better than the previous season.

Fruit Juices.

A Growing Industry.

Not content with a canning business requiring 20 million cans a year, the California Sanitary Co., already quoted as the largest canning unit in Southern California, has added special equipment for the manufacture of Tomato juice, Orange juice and Grapefruit juice. This is in conformity with the huge demand recently developed in America for fruit juice drinks.

The preparation of the fruit juices may be briefly described. The Oranges pass through a masher and a juice extractor. The juice is then pumped by vacuum through glass-lined pipes to special enamel-lined tanks from which it passes into the filling machines.

Tomatoes for juice extraction must be highly colored, fully matured and vine-ripened before they will be accepted. Even so they are put on to a sorting belt and only the best are allowed to go to the washer. After being washed they are scalded and put into a large juice extractor. The juice obtained is pumped into Monel metal-lined holding tanks, then through a viscalizer into glass-lined tanks and on into a filling machine in which it is cooked and vacuum packed.

Everything conceivable is provided to ensure that no contamination is possible with the juices, and the public, believing this, respond in a remarkable manner to the persistent and sensible craze of fruit juice consumption.

COMPANY'S REPORTS.

At the annual meeting of shareholders of Francis Longmore & Co. Ltd., the chairman (Mr. S. H. Wilson) stated that the company had balanced its budget last year and were now definitely making profits. The reduction of production costs and an increase of sales prompted the reasonable expectation of even more satisfactory conditions during the coming year.

For the year ended October 31, Messrs. Henry Jones Co-operative Ltd., report net earnings of £134,482 as compared with £111,414 in 1933. These figures repre-

sent £98,288 earned within the Commonwealth and £36,196 abroad. The complete clearance of all stocks of canned fruits was a most satisfactory item in the annual report of the directors, and should reflect in higher prices to growers during the coming packing season. All other activities of the company were reported to be in a sound condition.

ASPARAGUS FOR CANNING.

The recent acquisition of the property of the late Mr. T. Roxburgh, in the Koo-weerup district, by the Australasian Jam Co. Pty. Ltd., is giving an impetus to Asparagus growing in the district. Mr. Roxburgh has for many years successfully grown a good quality Asparagus upon his property, and many other growers in neighboring localities are now extending their acreage; reports indicate that some Potato growers are turning their attention to Asparagus growing, in the conviction that a more satisfactory financial result will be had.

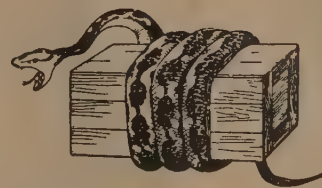
APPLES AND MATRIMONY.

A report comes from England that a Leigh fruiterer, upon opening a box of Southern Tasmanian Apples, found the following letter enclosed: "I would like a girl to answer this letter, and I will make pals with her. I will answer by return post, and will send her some snaps of Tasmania. I am 22 years old, and would like a girl of about the same age to correspond with me."

THINNING STONE FRUITS.

Where stone fruit crops are heavy, thinning is important. Do not thin until final shedding has occurred. Remove all blemished and malformed and small fruits; further thinning may subsequently be necessary for better spacing.

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It is being stated that only those who adopt the very best cultural practices and produce the best quality fruit can hope to outlive the present parlous condition of the Citrus industry. One might manage to eke out a living by plodding along in "the good old way," but it is certain that he could not prosper under those conditions. There is one cultural practice, however, without which he will not be able to go very far, and surely that one is the application of nitrogenous fertilisers of some kind or other. By far the greatest majority of all successful Citrus growers throughout the world never hesitate in their choice in this regard. It is always Sulphate of Ammonia, not only because it is the cheapest form procurable, but also because the Citrus trees prefer it, and flourish under its influence.

H17/34

Tasmania.

Scottsdale. — Mr. E. Vickers, of "Hazlemere," Scottsdale, Tasmania, advises as follows on October 11:—

As far as fruit crops in this district are concerned, this season is going to be rather light, especially in C.O.P., ST.P., A.P.M. and Statesman.

We have up to a month ago suffered with a very dry spell, but the last month has been rather abnormal, hail, gales and very strong winds; the winds, of course, we expected, but not the hail, which has marked the early Pears and leaves of the Apples, which are well advanced in green tip.

Although the orchards are light, there are a few varieties heavy which were on their off year last season.

The main fruit

grown in this district is the Apple, very few Pears being grown.

The Apples are C.O.P. Jons., ST.P., Croftons, Dels., Statesman, Alfriston, Dunns, Democrats, and G.S., although we are very bad here for small lines in numerous other varieties.

I myself have just grubbed six acres and replanted Democrats, G.S. and C.O.P., so that with reworking my E.P.S., L.W., A.P.M., P.N., G.F., D.C., and Cleo's. will in time only have six or seven varieties, which are quite enough, i.e., C.O.P., ST.P., Jons., Del., G.S., Dems., and Dunns.

A neighbour, Mr. D. McLennan, has inarched a block of 400 trees, and we are all anxious as to the results later on.

Most of us use the 6-4-40 Bordeaux in green tip, and lime sulphur in pink and calyx, although we have our different views between us as to who is right.

Bagdad (22/11/34). — From what I hear, the crop in the district is generally very good.

In our own orchard there is a heavy setting of Sturmers, Scarlets, Cleos., Jonathan, Cox's, Democrats, Croftons, and Granny Smiths, and all will need heavy thinning. Pears also promise a heavy crop—particularly Winter Coles.

Spring rains, although not excessive by any means, have caused Black Spot to make its appearance, in spite of conscientious spraying. All our trees appear in the best of health, and I attribute this largely to retaining the iron sulphide spray for mildew in the late dormant stage—always followed by sulphur sprays at the correct periods.

I am not one of those who are attributing the poor keeping quality of some Tasmanian fruit in recent years to these sulphur sprays—in fact, I find our fruit keeps excellently, and there is no doubt that the appearance is very greatly enhanced by the use of sulphur. Experiments carried out recently by the Department of Agriculture support this view.

The rainfall in the district has been exceedingly low, and we, personally, are about ten inches below our average, and there is no subsoil moisture at all. Unless there are regular rains through the summer the position will become very serious.—S. J. Bisdee.

APPLES AND PEARS FOR NORFOLK ISLAND.

Embargo Modified.

Fumigation Necessary Before Shipment.

The Commonwealth authorities recently announced that the embargo on the importation of Apples and Pears into Norfolk Island has been modified to allow the admission of such fruits, provided certain conditions are observed. It must be proved to the satisfaction of the Administrator that the Apples or Pears are free from disease, and that they have been fumigated with carbon disulphide by a vacuum process.

53 YEARS OLD LEMON TREES STILL BEARING WELL.

The "California Citrograph" reports that Mr. Charles B. Motsinger, of Alta Loma, has six acres of Lemon trees which are still bearing good fruit, although they were planted 53 years ago, and from their appearance have many years of service ahead of them. The 371 trees comprising the six acre plot are producing 3,000 field boxes of Lemons every year. The trees are fine sturdy ones, of good color and show no sign of any tree disease.

As bearing upon the cause of their longevity, it is stated that they were planted 24 feet apart, allowing ample sunlight and air circulation around them and that the soil is peculiarly adaptable to citrus growing. Only a few trees had to be replaced in the early days, the original planting comprising 390 trees. On the same orchard can be seen 9 acres of Washington Navel Oranges planted 51 years ago and some Valencias that have been in bearing for 20 years.

South Australian Visitor Appreciates Victoria

Royal Agricultural Show—The Duke and the Bagpipes—Visits on Good Roads to Country Districts—Roadside Produce Stalls—Busy Shipping at Port Melbourne The Charm of Fern Gullies.

(By Our Murray River Correspondent.)

Renmark, November 17, 1934.

A GOOD DEAL of the time since last month's notes were written has been spent in Melbourne, and some of the impressions left on the mind of a South Australian may be of interest. The first thing that strikes a visitor from this State is the wonderful condition of the Victorian highways. It doesn't matter whether the high road leads through a hundred miles of Mallee scrub, or whether it is nearing the metropolis, a good surface enables the motoring visitor to speed along with a song in his heart.

The great

Royal Agricultural Show

at Melbourne attracts country people by the thousand, and the artful way vendors extract the shillings from our people on the land, by offering them a mysterious assortment of samples in bags is most ingenious. The raucous voices of hundreds of vendors filled the air, each outdoing the other in tone and method, and constituting an interesting study in humanity.

Of the competitive displays of produce from the various districts, the Swan Hill effort interested me most, as the display of dried fruits constituted one of the finest efforts I have seen, covering every class of fruit dried, and the artistic arrangement reflected very great credit to that district's efforts. This was particularly pleasing to the dried fruit man, in consideration of the fact that the competitive display in the dried fruit section was very poor, and did not in any way reflect the importance

of this industry. While waiting for the Duke to make his appearance from the gates of Government House we were entertained by a Scottish pipers' band. The bagpipes are things about which no man can remain entirely indifferent; you either hate them, or you are stirred to the very depths of your spine by them.

I cannot trace any Scot among my ancestors, but the sound of bagpipes stirs some primal instinct, and makes me want to pick up a claymore and do things with it. After the Duke had passed and the crowd melted away, the sight of those hard-bitten Kilties, and the sound of their pipes left an impression equal to the sight of the King's son.

The sight of Scott crossing the finishing line at Flemington, and disappear-

This story of our Renmark correspondent's visit to Victoria during the Centenary celebrations will be appreciated by all readers.

It is always good to know "the other fellow's viewpoint."

This article is friendly and appreciative. At the same time, "Nemo" would like to have seen bigger competitive entries in the dried fruit section at the Royal Agricultural Show.

ing like a flash into space, returning and dipping acknowledgments, was an historical sight I shall not forget.

Although the city had many attractions, I liked best of all to get out into the country

to those undulating green hills around Lilydale, where cows stood knee high in pasture, and sheep filled their bellies without moving far. Then up into the hills of Dandenong, around Belgrave and Ferntree Gully, with its scenic beauty hard to beat, where ferns grow in peaty soil, spongy with ages of organic accumulation, while Moss and Lichen mantles the fallen timber and covers the Tree Fern stems, and crystal-clear streams hurry along to join their big brothers.

It was hard to realise, when looking at this virgin forest, that only 20 miles away existed a city of a million people. Up to the top of Mt. Macedon, where the wind has an edge like a knife, and down again and

on to Harcourt,

where the Apples grow, and the road winds through tall timber with branches meeting overhead, and Hawthorn hedges are in bloom. Out to Healesville, one of the many beauty spots in Victoria, where the pleasure of walking through forest paths becomes a delight, and the distant hills are purple.

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Whether your road leads you to forest resorts, or takes you along the coastal road for a sea breeze, the roads are an unending source of gratification wherever you go. Going along the road on a holiday or week-ends, a good deal of interest centred around the road stalls and their various commodities for sale. One notice implied that the owner specialised in "clotted" cream — whatever that is—another guaranteed every egg 100 per cent. fresh; vegetables, fruit and all kinds of home products were on sale right out in the bush. An entertaining apiarist had a quaint notice, "Come and See the Bees Making the Honey You Buy." An observation hive stood up in full view of everyone passing. We looked at the bees, although we had no intention of buying the honey made "while you wait." The owner came up and gave us a treatise on bees, and their wonderful instinct and method of systematic organisation. We found him to be not only a keen student of insect life, but an expert landscape gardener, rock gardens and rustic work, and fish ponds having been created with an artistic eye to a natural setting. The whole work was that of an enthusiast, whose keenness was quite infectious, and taking a last look over the Iris beds, we found it hard to tear ourselves away.

Who can watch the loading and unloading of overseas boats without imagining himself a passenger, coming or going, when the hold is full or empty? At Port Melbourne ships come and go every day, and all day. Frozen lambs were being emptied from trucks and dumped, yes, literally dumped, into heaps and hoisted up in nets by the dozen and stowed away by men wearing sacking over their boots and extending up to the knees. (This is to prevent

frost bite when working in the refrigerators.) I do not know how much bumping a frozen carcass will stand, but there was a good deal of creaking and groaning as they went aloft and were lowered into the hold.

Only a short distance separated this wharf from the "Sussex" and her accompanying destroyers. There also berthed an Italian destroyer capable of doing 40 knots. It is hard to realise an ocean-going vessel travelling about 50 miles per hour, and even a "land lubber" could appreciate the graceful lines of their designing. They all looked so gentle and kind when at anchor; yet could spit a considerable amount of fire in all directions when teased. The crew were a fine type of well-behaved fellows, and as everybody loves a sailor, I noticed that the "flappers" were no exception to the rule.

Melbourne was in a holiday mood, and everyone did their best to make the "stranger within its gates" welcome. It may have a notoriously fickle climate, but this only helps to freshen the landscape and make the picturesque gardens a thing of beauty and joy forever.—"Nemo."

Angaston (23/11/34).—Crop prospects are as follows:—

Apricots: Moorpark mostly grown, light to fair; last year a very heavy crop.

Pears: Crop light to medium in most gardens; some orchards have heavy crops.

Peaches: Very few Clingstone grown in this district, but what there are have a heavy crop.

Apples: Patchy, some gardens very

light, others again heavy; on the whole, the crop, which is mostly Cleo's., is light.

Prunes: Heavy crop, following the comparatively light crop last year.

Currants: Exceptionally good showing of bunches at present. Cincturing just about to start.

The season has been a difficult one; very little rain in the winter months, most of the rain having fallen in October and early November.—W. H. Batten.

Loxton. — The twenty-first annual show of the Loxton A. & H. Society, held on October 10, was most successful. In the fruit section, Mr. Geof. Petch secured first prize with some good quality Lemons, while Mr. Wilson Francis did particularly well in the dried fruits section. The exhibit of the A.D.F.A., where the Sunshine Cookery Books were in demand, was a creditable one.

Balhannah (15/11/34). — Apples and Pears set heavily in this district, where the frost took the 1934 crop. Since setting hail has seriously damaged a number of orchards. Where the crop missed the frost in 1934, and fruit came to maturity, they are very light this season.

Plums: Same remarks apply. Generally the setting is patchy, and not a full crop.

Gumeracha.—Mr. J. B. Randell reports that the principal fruits in this locality are Apples — leading export varieties, also Pears (Williams chiefly), and Plums. Crop Prospects: Plums fair to good; Apples and Pears shaping for good crops.

Lenswood (Nov. 25).—The crop prospects:—

Apples: Showing about 70 per cent. of full crop. Probable total of 80,000 cases for Lenswood and Forest Range district. Varieties: Romes, Five Crown, Heavy, Jons.; 50 per cent. of crop, Statesman, Rokewood—fair.

We have experienced a dry winter and a wet spring. It has been a difficult year for effective Black Spot control, but most orchards are clean—a record quantity of lime sulphur was used. Last season's Apples practically finished—about 1,000 cases only remaining in the local cool store.

Plums: Many varieties not bearing this year.

Strawberries: Light crop.

Loganberries and Raspberries give promise of a fair crop if weather conditions through December favorable. This is the largest berry district in Sth. Australia, but production remains about stationary owing to low prices. — Max J. Vickers.

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Cold Storage In Australasia

COLD STORAGE OF ONIONS.

By Willis J. Williams, F.C.S. (London),
Superintendent of Markets, Sydney.

ONIONS ARE GROWN in many parts of Australia, especially in the Southern States. It is one of those vegetables for which there is a great demand, and there is not the slightest doubt that very large areas will be used in the other States as soon as it has been found out where the soil is suitable.

Harvesting.—Care should be exercised in harvesting Onions as one has only to go on to the farm to notice the great number of Onions that are badly cut and damaged. These damaged Onions, if placed in store will mean the development of moulds.

The varieties used in these tests were Brown Spanish and Silverskins.

Packing and Handling. — In this experiment Onions were placed in store in ordinary Onion bags, much as are used commercially, having a fairly big mesh, and although the results were satisfactory, it may be even more satisfactory to store this produce on trays or in well ventilated boxes, as it is essential that a free air current should at all times be present. Onions always keep better in boxes than in bags, and the waste is much less.

It is well to point out that insufficient care is taken generally in the handling of Onions, as they are just as easily bruised and damaged as Apples, and it is advised that for storing purposes the best results would be obtained from Onions which had been carefully dug, properly dried and carefully handled in every stage of transport from the producer to the cold storage works.

Cold Storage.—A series of experiments was carried out in connection with the cold storage of Onions. These experiments proved to be quite satisfactory, and it was proved that Onions will keep in good order and condition in cold storage for several months.

So that no doubt will exist in the minds of those who might be interested in the cold storage of this produce, further experiments have been

conducted, from time to time, so that the tests carried out could be confirmed or otherwise. It is pleasing to note that the experiments previously made are now proved to be of a satisfactory character, as will be shown by this report on the present tests.

As is well-known, the Onion can be kept for fairly long periods in dry, or common storage, and in Australia this is the only way that has been utilised; but it is very evident that a method of storage, whereby the temperature and the humidity can be controlled, must be decidedly advantageous in the preservation of any foodstuff, and in the case of Onions, is a means of minimising the loss of weight by shrinkage, the spread of disease, and last, but most important, the prevention of sprouting. It is apparent that the latter will be a great advantage in the better regulation of crops, and will play a great part in enabling the grower to supply fresh Onions over a much longer period than hitherto.

The "Brown Spanish" and "Silver-skin," of which several packages of both these varieties were placed in cold storage at various temperatures ranging from 25 degrees to 35 degrees F. The Onions were of good quality, free from bruises and had been well dried for several days before being placed in the cooling chamber.

Inspections were made from time to time, the first examination being made after the Onions had been in the store four (4) weeks. Samples were taken from each lot, the general appearance being good and the condition sound, particularly those which had been stored at the lower temperature of 29 degrees Fah., which is the recognised freezing point of Onions.

On thawing out, the "Silverskins" were not in a satisfactory condition, and it was realised that this variety would not be a good subject for long storage, although more satisfactory results could be derived if the Onions were gradually thawed.

The "Brown Spanish" variety stood the thawing well. Regular examinations took place and no destruction was noticed, the Onions being sound and with no apparent shrinkage.

At the end of six months the experiment ended by taking out the balance. Those stored below freezing point were defrosted as gradually as possible by placing them, from time to time, in gradually increasing temperatures. The best temperature proved to be 35 degrees with a humidity of 87 per cent.

A test was made with some Onions which had been purposely cut and it was ascertained that slight mould growths developed along the cut surfaces.

Post Cooling.—Onions should be post cooled, that is, after they have been in the cold store they should be placed in a room where the temperature can be raised gradually. In the latter experiments it was proved that Onions which were placed in the post cooler and the temperature allowed to gradually become higher, the Onions kept for a much longer period than when they were taken from the low temperature immediately into the high temperature, that is to say, from a temperature of 35 to nearly 60 degrees.

This was thought a wise precaution as the Onion is susceptible to sudden changes of temperature, and not being able to readily absorb the oil and water, it is liable to become moist and sweaty if exposed to sudden warmth. The gradual thawing preserved the full qualities of this produce which compared favorably with fresh Onions, the general appearance being even better.

On cutting, these Onions presented a perfectly healthy color and had retained their full natural flavor.

Storage — Loss of Weight. — The loss of weight during the storage period was found to be approximately 4 per cent., and when this is compared with the accepted 12 per cent. loss in common storage, it will readily be seen that any cost entailed for refrigeration will amply repay those concerned, and this, coupled with the fact that sprouting does not take place in the cooling chamber, alone enables a big saving in handling, and thereby reduces the costs, and should be the means of popularising this method of storage and benefit the trade generally by enabling the Onion to be marketed in a prime condition for a much longer period than hitherto.

Onion Odor.—It must be remembered that once the cold store has been used for Onion storage, it is very doubtful if it could be used for the storage of any other produce, other than vegetables and Potatoes.

Several tests were made with various deodorisers, but it was found that in the direct expansion rooms the Onion odor still existed and in the wind rooms where there was a wet battery for with the changing of the calcium chloride the

odor still remained. This is a point which must be considered when storing this line of produce.

Summary.

- (1) Care must be used in harvesting Onions.
- (2) Onions will keep in store for several months at a temperature of 35 degrees with a humidity of 87 per cent.
- (3) It is advisable to post cool Onions on account of the fact that this vegetable is susceptible to sudden changes of temperature.
- (4) The loss of weight in cold store is 4 per cent. compared with 12 per cent. in common storage.
- (5) Onion odor is likely to penetrate cold storage insulation and become permanent.

Refrigeration

IN 1933 GREAT BRITAIN IMPORTED two and a-half million tons of food, valued at over £87,000,000. This enormous trade, stated Mr. R. S. Forsyth, a representative of New Zealand on the Imperial Economic Conference, in addressing a recent meeting of the British Association for Refrigeration, in London, could not have been transported to England and distributed to her millions

of consumers without the aid of modern refrigeration methods.

These almost incredible figures, he added, make one realise how dependent Great Britain is upon refrigeration for a large proportion of her daily food. Refrigeration has been one of the greatest factors in the development of Australian exports overseas, but there is still room for educating the public in the value and unlimited possibilities of refrigeration in the service of mankind.

Storage of Apples

Gas, an Improved Form.

In reading a paper on "storage of Apples" to a conference of Apple and Pear growers on the occasion of the autumn show at Crystal Palace, London, recently, Dr. Cyril West, of the Ditton Laboratory, East Malling, stated that when considering the problem of Apple storage, it was convenient to deal separately with the four main features which influenced the storage life of fruit. These were: (1) The inherent keeping quality of the variety; (2) The pre-storage conditions, such as climate, season, soil, cultivation, type of rootstock, method of gathering and grading, etc.; (3) The stage of maturity of gathering and; (4) the actual conditions of storage.

In the matter of cultural conditions, Apples intended for storage should be grown under conditions that would produce the best keeping qualities, such as receiving a minimum quality of nitrogenous fertiliser, but with plenty of potash and phosphate.

Regarding storage, the lecturer said that with some varieties the best results could be obtained by controlled ventilation, but the low concentration of both oxygen and carbon dioxide, required by other varieties could not be obtained by ventilation alone.

Tests of a commercial method of obtaining the best conditions were now being carried out at the Ditton Laboratory. The method consists of a liquid circuit which absorbs carbon dioxide from the atmosphere within the store and parts with it to the outside air.

Gas storage is now considered to be an improved form of storage. In this method the temperature must be regulated and mechanical refrigeration employed, even if for no other reason than to counteract the self-heating of the fruit when stored in bulk. Apart from its remarkable capacity for prolonging the storage life of fruit, the paper concluded, gas storage, to a degree even greater than with the liquid circuit, retarded the change in ground color from green to yellow—a point of great importance in culinary varieties. Apples

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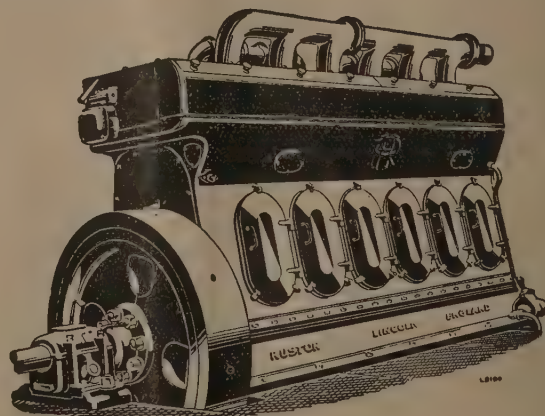
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removed in May from gas storage at ordinary temperatures had remained in excellent condition for a further six weeks.

CLEANING SPRAY RESIDUE.

Experiments with washing solutions for the removal of spray residue, recently conducted by Prof. Overley and Dr. Overholser, of the U.S.A. Department of Horticulture, seem to favor the addition of a light mineral oil.

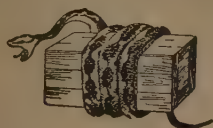
The adding of 1 per cent. of mineral oil to either hydrochloric acid or sodium silicate washing solutions aids in cleaning the spray residue satisfactorily. The benefits were reported greater with the hydrochloric acid plus the oil than with the sodium silicate solution plus the oil. In the latter case, soap added to make a foam was found beneficial.

In cold storage, however, Apples washed with a solution of sodium containing mineral oil were found to be less shriveled than others washed with hydrochloric acid and oil, in fact, some washed with hydrochloric acid without oil added kept their appearance better than those treated with the oil-added solution.

Farming is Backward in Spain.

Irrigation and soil cultivation in Spain is still conducted largely by hand and animal power. Comparatively few tractors are seen in spite of the enormous tracts of land devoted to farming pursuits. It is estimated that only 500 tractors and approximately 4,000 internal-combustion engines are used throughout the whole country. Of the 100,000 irrigation or water-lifting outfits of all sorts over 70 per cent. are operated by animal or manual labor. Time and efficiency do not press heavily upon the Spanish agriculturist, yet a beneficent Nature smiles upon his labor.

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Western Australia.

Mt. Barker.

The main varieties grown here are Jonathan, Cleo., Dunns, Granny Smith and Yates, with smaller quantities of Rome Beauty, Sturmer, Rokewood and Statesman.

The blossoming period is now over. At first the setting promised to be a very heavy crop, but a late drop has brought down estimates considerably. The crop should now be a normal one, with the exception of Granny Smiths, which are very heavy.

Pears at first promised a heavy setting, but winter Nelis and Josephine shed heavily, Beurre Bosc and Comice appear to be holding well, and are carrying heavy crops.

The season so far has been an abnormal one. Although the winter rains were below average, the usual warm spring days were absent, consequently thrips have not been troublesome, and other spring pests (Bryobia and Spring Beetle) did little damage, but Woolly Aphis has got ahead of Aphelinus Mali, and many growers have been compelled to spray.

At a well-attended meeting of the Mt. Barker Fruitgrowers' Association, Mr. J. McN. Martin gave a resume of the work done at the Apple and Pear Council, which he attended as a delegate from W.A.

Growers generally are in agreement with the restrictions placed on export varieties and sizes, though, of course, some growers are harder hit than others.

The growers' greatest difficulty is to estimate accurately the crop available for export, as, should good summer rains fall, the average size may quite easily jump half an inch. This happened last season, followed by excessive heat scald, causing many growers to be as much as 40 per cent. out in their estimates, making it impossible for them to fill their export commitments, although they had oversize fruit available. It is difficult to know how far to carry thinning operations.

Karragullen (Nov. 22, 1934).—Re crop prospects:—

Bartlett Pears (marketed locally) are medium as compared with heavy last year. Apples generally have set well, after a very heavy blossoming. Grannies and Cleo's. are very heavy; Yates, Democrats and Dougherty heavy; Dunns, Jons. and Rokewoods medium. Thinning is in progress, and Yates and Dougherty need fairly heavy thinning in particular. White oil spray is now being applied for Red Mite (Bryobia). We are pleased with the new grading regulations, which will have the effect of a qualitative restriction on our export. With rigid in-

spection and the fact that growers will not be able to take advantage of the old grading regulations, and with the shipping programme not running ahead of the maturity of the fruit (like 1934 season in W.A.), and seasoned and partly dressed hardwood dump cases, Australian fruit should create a good impression on the overseas markets in 1935.

Mr. Geo. W. Wickens, Superintendent of Horticulture, Department of Agriculture, Perth, W.A., reports that weather conditions during the winter and spring have been very favorable, and there is promise of a good crop of all kinds and varieties of fruits, but so many things may happen between now and the time of setting that it would be futile to give a forecast of quantities. Further report next month.

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When is an Apple Mature?

The following article defines the picking Maturity of Apples for export (by W. M. Carne, Division of Plant Industry, Council for Scientific and Industrial Research).

FOR GOOD CONDITION and quality in Australian Apples on the overseas markets it is essential that they should be picked within a limited range of maturity. If picked too early they will open up with an unattractive appearance and with a probability of severe bitter pit in susceptible varieties. If picked too late they will tend to be soft and probably more or less bruised and affected with rots. There will also be a greater tendency in some varieties to breakdown. Even if sound and in good keeping condition their forward condition will make buyers doubtful of them, a consequence of unfortunate experience in the past.

Most experienced growers have a good idea as to when Apples should be picked for the best results, but cannot put this knowledge into words or impart it to the less experienced. Much fruit is shipped which is not in suitable state of maturity either through ignorance or as a result of the pressure of circumstances which need not be discussed here.

Once the fruit passes out of the grower's control he has no knowledge of the conditions that it will experience en route overseas and on the market. He must therefore assume that it will experience average conditions. These include about one week in Australia at ordinary temperature, up to ten weeks in a sufficiently ventilated refrigerated

hold at temperatures averaging 35-40 deg. for the voyage, and a period on the overseas markets before retail sale averaging about three weeks.

The following recommendations are based upon a study of the relation of maturity to the development of storage defects by the writer and his colleagues during the past seven seasons. The work has been done with Apples grown under such widely different conditions as those which occur in the Apple areas of Western Australia and southern Tasmania. Experience has shown that each variety has its own desirable range of picking maturity, but in the following an attempt has been made to secure greater simplicity at the expense of greater accuracy. It must also be admitted that at present greater accuracy is possible only with a few varieties. It is believed that the recommendations, if followed, will ensure at least a reasonably good out-turn overseas provided the fruit experiences average or better conditions of transport and handling.

Trees With Normal to Heavy Crops. In Normal Seasons.

Dessert Apples.—Normally make two or more selective pickings, commencing with the larger sizes when:—

The ground color has changed from the original leaf-green to yellow-green. Picking should cease before the fruit is green-yellow, that is before yellow predominates over green. At the same time the iodine reaction of early and early midseason varieties should show the core free from starch and definite evidence of starch disappearing from the other tissues. Late varieties should show definite evidence of starch loss in the core. The iodine test is not suitable for general application to Yates, and under some conditions not yet understood to Sturmer.

The finding of radial water-core in Jonathan, Cox's Orange Pippin, Ribston Pippin, King David and Delicious should be followed by the immediate picking of these varieties commencing with the larger sizes. If more than a very small proportion are found to be affected the larger sizes should be used for local sale.

The presence of more than slight occurrence of ordinary water-core in the harder varieties should lead to the elimination of the more affected sizes from the export fruit.

Pit liable varieties, particularly of the earlier pickings, should be held in the packing shed long enough to allow the more susceptible fruit to develop pit before packing commences. The most advanced fruit might also be culled out with advantage.

Culinary varieties.—Picking should commence when the first change in the original leaf-green of the Apples can be detected. The iodine test at the same time should show definite evidence of starch loss in the core. Picking should be completed before the fruit becomes definitely yellow-green. If water-core is present in more than small amount the most affected sizes should be culled from export fruit.

In Seasons Definitely Cooler and/or Moister Than Usual.

Pick all varieties earlier and finish earlier in the cooler districts than in normal years, and cull out the larger sizes of varieties liable to low temperature breakdown as Jonathan, Scarlet, Cox and Sturmer. In warmer districts

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pick as in normal years, preferably discarding the larger sizes of the softer varieties.

In Seasons Definitely Drier and Warmer Than Normal and Especially in Seasons of Severe Heat Waves.

Dessert Varieties.—Pick somewhat later than in normal years, subject always to completion of picking at the first sign of radial water-core. Delay picking of the harder varieties which have developed ordinary water-core early. Discard the larger sizes of all lines showing more than slight water-core when picked. Hold the earlier pickings at least of pit liable varieties in the packing shed to allow pit to develop before packing.

Culinary Varieties.—Pick on the basis of color as for normal seasons, but cull out sizes showing more than slight water-core. Do not ship French Crab from trees on which the fruit has been stunted by drought.

Trees With Light Crops. In Normal Years.

Dessert Varieties.—Make one picking only at the first indication of yellow-green in the ground color. This will usually be earlier than the first picking of the good crop trees. Do not mix with the fruit of the good crop trees. Hold

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the pit liable varieties to allow of pitting before packing. Discard fruit from trees which have fruit with water-core.

Culinary Varieties.—Pick on color basis at a single picking, culling out the sizes with water-core, if present.

In Cool and/or Moist Years.

In cooler districts do not export the fruit from lightly cropped trees of varieties subject to low temperature breakdown, including Cox, Ribston, Jonathan, Scarlet, Sturmer and French Crab. For other varieties and for all varieties in the warmer districts, pick as for normal years, preferably culling the larger sizes in the softer varieties.

In Dry and Warm Seasons.

Preferably do not export varieties subject to water-core from warmer districts. In cooler districts pick somewhat later than in normal seasons. Pack fruit separately to that from good crop trees and hold pit-labile dessert varieties to allow of pitting before packing. Do not export fruit from trees carrying fruit with water-core.

General Comments and Definitions..

Bitter-pit develops more rapidly at high than at low temperature. In shed storage pitting is usually much less severe than in cool storage. The time required for the pit to show is about 14 days or more in southern Tasmania with a minimum of about one week in the warmer districts.

A normal season is one in which the temperature and rainfall for the period December to harvest are not unusual for the district concerned.

A normal crop is the crop of trees which individually have fruit at picking time the bulk of which is within the size range most desirable for the variety on the markets of the United Kingdom. For most dessert varieties this is 2½-2¾ inches diameter (mean 2¾ inches) and for most culinary varieties 2¾-3 inches (mean 2¾ inches).

A light crop is one in which the bulk of the fruit are above the mean of the normal size.

A heavy crop is one in which the bulk of the fruit are below the mean of the normal crop. The number of fruits on a tree is not a satisfactory guide to the crop as the carrying capacity varies with individual trees and with the season.

Ground Color. This refers to the color of the skin where it is not red or flushed. It changes with maturity in a normal crop from leaf-green, to yellow-green, then to green-yellow, and finally to yellow or cream. In light crops the green of immature fruits is less dense than in normal crops, and with the same development of yellow, the fruit looks riper than that on trees with heavier crops nearby.

Iodine Test. This is a simple test for starch. Its use is based on the fact that immature Apples on trees in normal health have their tissues heavily charged with starch. As the fruit matures this starch disappears, the disappearing process starting from the core of most varieties. Starch is last found just beneath the skin and associated with the vasculars of the core-line. In some late varieties, such as Yates, starch loss does not follow the usual lines.

For picking purposes the test should be applied within one hour of picking the test Apples. Each fruit is cut in half with a sharp knife through the centre of the cheeks, and a weak iodine solution is spread over one cut surface of each. After about three minutes the Apples are ready for examination. The presence of starch is shown by a blue or purple color. Where starch is absent the tissues show white or brown. The ordinary chemist's solution of iodine in alcohol, used for wounds, etc., is not suitable for Apples. A suitable one is made by dissolving 10 grams potassium iodide and 2½ grams iodine in 1 litre of water.

Core. This term includes not only the horny seed compartments, but also the flesh within the core-line. The core-line is best seen when Apples are cut in half through the cheeks. It can then be seen as a line joining the ten small spots (vessels or vascular bundles), which form a more or less regular circle around the seed compartments.

Cool and Warm Districts. For the purpose if these notes, a cool district is defined as one with a mean shade temperature for December to March approximating to 60 degrees F., and in some years not reaching that figure. A warm district is one in which the mean temperature for the same period at no time falls as low as 60 degrees.

VICTORIA.

(Continued from page 687.)

Bairnsdale (27/11/34).—The fruit crop is not going to be as heavy as was first expected, owing chiefly to abnormal seasonal conditions. October and November have both been wet and dirty. At times the night temperatures were far too low.

All Apples bloomed heavily, but owing to climatic conditions (also the impossible conditions for bees to work in), the setting of Jonathans and several others has been disappointing. Granny Smith and Democrat set well, but the former shed heavily during the last cold snap. On the whole, I should say the crop will be fair to medium, unless conditions suitable for Black Spot persist, and growers take a risk instead of using the preventive sprays.

Pears in export sorts are light. Bartlett are pretty good, but some spot showing.

Apricots will be very scarce as far as canning quality is concerned.

Peaches are a good crop throughout, and the marginal rate for yellow pit Clingstones is something which was expected years ago. Perhaps there should be 30/- extra in favor of these varieties as against the Pullars, still this £1 is appreciated for a start.

Plums and Cherries are medium to good.

On the whole, growers are hopeful of 1934-35 season showing profitable returns spread over all varieties of deciduous fruit.—G. W. Peart.

COOL STORES' ASSOCIATION.

The quarterly meeting of the Orchardists' and Fruit Cool Stores' Association of Victoria will be held on December 11 at the Federation Insurance Rooms, 18 Market-street, Melbourne, at 1.30 p.m. Among the business to be discussed will be that of overstored fruit.

VICTORIAN FRUIT MARKETING ASSOCIATION.

Owing to the absence of the president of the V.F.M.A. (Mr. Geoffrey W. Brown) in New Zealand, it was decided to defer the monthly meeting until Friday, December 7.

HAILSTORM IN SOUTHERN VICTORIA.

A hailstorm swept through a narrow belt in Southern Victoria at the end of November, and did considerable damage to fruit crops in Blackburn, Mitcham, Vermont and East Burwood areas.

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V.F.M.A. CONSTITUTION.

Amendments Submitted to Members.

DURING the past few months quiet and consistent attention has been given to the Constitution of the Victorian Fruit Marketing Association.

Certain alterations are now recommended by the executive, and a special committee appointed by kindred organizations.

It has necessarily taken some time for the amendments to be reconciled, especially as the proposals were launched during the export season, when executive meetings are for the time suspended, and even when this work was completed, legal advice was obtained in order to be sure that the amended constitution was in order.

It was then discovered that owing to a decision in a recent test case, some legal provisions were necessary, and much to the regret of the V.F.M.A. further delay became inevitable. It became necessary for the Constitution, as amended by the legal mind, to be again submitted to the V.F.M.A. and its special committee. But if the delay has given the Association a more complete and workable Constitution, then the time spent will have been well worth while.

The Constitution as amended has now been submitted to members, and a ballot will be taken for its adoption in its present form.

DOWNY MILDEW.

An outbreak of Downy Mildew has occurred among vines at Red Cliffs and Woorinen.

The unseasonable weather has favored the spread of the disease.

BLACK SPOT AND DOWNY MILDEW OF VINES.

Immediate Bordeaux Spraying Recommended.

Vine growers in Northern Victoria are advised by the Government Plant Research Station, Burnley, to protect their vines immediately and throughout the remainder of the season from the ravages of Downy Mildew and Black Spot, by spraying with Bordeaux mixture 10-5-50.

This spray is made up as follows:—Dissolve 10 lbs. of a finely crystalline bluestone in 25 gallons of water in a wooden barrel. Slake 5 lbs. of quicklime by adding small quantities of water. When the lumps of quicklime are reduced to powder fill up with water to the 25 gallon mark and stir thoroughly. Pour the contents of the two

barrels simultaneously into the spray vat through a strainer. If the Bordeaux mixture is properly prepared a sky blue colored liquid should result.

ORIENTAL PEACH MOTH.

Full-Time Entomologist at Work in the Goulburn Valley.

The Oriental Peach Moth investigation is in progress. The committee in charge of the investigation consists of Dr. Nicholson (chairman), Mr. F. M. Read, M.Agr.Sc., and Mr. S. Fish, M.Agr.Sc., Plant Research Station, Burnley (secretary).

The entomologist in charge is Mr. F. J. Gay, a graduate of the Sydney University.

A laboratory has been established at the Ardmona Cannery.

Funds are provided from the Canned Fruits Control Board and the Rural Industries Development Fund of the Commonwealth Bank.

The lines of research in attacking the Oriental Peach Moth are: (1) spraying, and (2) biological control by parasites.

Growers in the Goulburn Valley are keenly interested in this pest control campaign. The Oriental Peach Moth has wrought great havoc. It is hoped that control measures for combating the pest will be speedily devised.

PASSION-FRUIT CULTURE.

The Passion-fruit plantations established by Passiflora Plantations Pty. Ltd., at Dromana, Vic., are now permanently employing 30 men. Over 100 acres have been planted, and 300 acres are now being cleared in preparation for planting.

Pears for Export

Problem of Arsenical Spray Residue.

The Minister of Agriculture for Victoria, Mr. Allan, has received from the Victorian Agent-General in London a report intimating that small quantities of Victorian Pears had been seized and destroyed by the health authorities at Cardiff and Pontypridd because they contained excess arsenical residue. The maximum amount of arsenic allowed is one-hundredth part of a grain per lb. of fruit, but the two samples condemned contained one-fortieth grain and one fifty-seventh grain per lb. respectively.

In the report it is stated that many other lots showed excess of arsenical residue, and were fortunate to escape being condemned. Growers are warned that the authorities in Great Britain are

likely to enforce the regulations more stringently in the coming season, not only at Cardiff, but also in the City of Westminster, whose health officers control the area in which the Covent Gardens are situated.

JAM AND CANNING FRUITS.

Minimum Prices for Growers.

THE BASIS of prices for canning and jam fruits at country and metropolitan districts is set out hereunder in a letter from the chairman of the Fruit Industry Sugar Concession Committee (Mr. A. R. Townsend), to the Riverside Fruit Growers' Association, Horsham, Vic., as follows:—

The committee has further considered the requests made to me by the Riverside fruit growers last July. You will be pleased to know that the committee has altered the basis of prices for jam fruits to delivery at the metropolitan factory. Minimum prices for canning fruits will remain as hitherto on the basis of delivery at the country factory. In arriving at these decisions the committee has recognised the reasonableness of basing prices on delivery at places where the great bulk of the production takes place. Minimum prices per ton—

	Jam. Canning.	
Apricots	£10	£12
Peaches, red centres	8	10
Do., yellow or clear centres	8	11
Do., Freestone	—	9
Pears	—	10
Pears, Keiffer	—	8
Plums	6	—
Quinces	7	—
Pineapples, per case	4/-	—

For jam fruit delivered at country factories, prices are £1 per ton less than those stated.

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FERTILISER TRIALS.

The opinion has been expressed at various times that, under typical Australian conditions, commercial fertilisers do not show any results which can compare with those reported from overseas countries, notably the U.S.A. It must be admitted that many local experiments have, judged from the standard of crop yields, failed to offer any convincing evidence in favor of the treatments under trial.

The Fruit Committee of the Plant Food Advisory Council of N.S.W., was, however, of the opinion that too much reliance was placed on the difference in local conditions when attempting to explain the lack of visible results, and accordingly made a careful analysis of the numerous factors affecting soil fertility. The conclusion was reached that the point upon which the average Australian orchard differs from the average overseas orchard is in the soil content of organic matter. Since the humus content of a soil is known to have a profound influence upon the effects of fer-



Improperly Fertilised.

larly plants green-manure crops in the autumn, to be ploughed under in the early spring. A series of treatments, ranging from no manure up to a complete manure, was applied to "Josephine" Pears, which were about ten years old, annually in the spring, starting in 1931. In the following autumn, as a result of thrips attacks, there was practically no crop. In 1932-33, a good setting was obtained, but a hail-storm stripped the trees to the branches. Last season, whilst the complete fertiliser gave an average yield appreciably higher than the no manure plots, the real effect of the treatments could only be appreciated when the trees were inspected. The photographs printed on this page show respectively an unmanured tree (Fig. 1) and a tree that has received, each year since 1931, 5 lbs. super, 5 lbs. sulphate of ammonia, and 3 lbs. potash (Fig. 2).

When it is pointed out that the trees were originally selected for uniform size and vigor, the contrast after three and a half years may be truly termed extraordinary. The difference in the new growth to be seen in the photographs is sufficient to explain how, in so short a period, so striking a variation was obtained. The orchard concerned is the property of Mr. D. Booth, at East Guyong, near Millthorpe, N.S.W.

It is obvious that, whatever the yields of a few trees might show for a few years, an orchard composed of trees such as those shown in Fig. 2, cannot fail to be more profitable than those in the other illustration. No more positive proof should be needed of the value of adequate dressings of complete fertilisers when combined with good cultivation, and the regular growth of green manure crops.



Fertilised Regularly with Super 5 lbs., Ammonia 5 lbs., and Potash 3 lbs.

tilisers, it was argued that local trials may have been breaking down on this point.

Accordingly, a trial was started upon an orchard, the owner of which regu-

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AUSTRALIA AND NEW ZEALAND.

Mutual Co-operation Desired.

(To the Editor, "Fruit World.")

Sir,—The present crisis in the fruit industry lends emphasis to the fact that the marketing problems of New Zealand and the Australian States are identical, and calls for close co-operation, particularly in the direction of co-ordinating shipments from the two countries so that the overseas markets are supplied with a regulated flow of fruit. Under the present system (or want of system) the irregular arrival of uneven supplies in the overseas markets, leading to gluts and ruinous prices, has cost the industry a pretty penny, and at the present time is a very real menace.—McKee & Sons, Tasman, Nelson, N.Z.

QUEENSLAND FRUITS AT VICTORIAN ROYAL SHOW.

A particularly popular exhibit of Queensland fruits was that displayed by the Committee of Direction of Fruit Marketing (Q'land), showing fresh Papaws, Bananas and Pineapples, as well as examples of how these fruits can be prepared for salads and special dessert dishes. Recipe books were extensively distributed, and should be one means of increasing public favor for these semi-tropical fruits.

Alongside this stand was seen a Banana-ripening machine, showing how the fruit is treated so that it can be marketed in the most nutritious manner ready for consumption. This machine was of small type, similar to the extensive ripening chambers now being installed by the committee in Melbourne.

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Answers to Correspondents.

Passionfruit and Fruit Fly. — "V.R.," Lower Chittering, writes: — I noted in the August "Fruit World" that a proclamation stating that Passionfruit, with other fruits, had to be cleared up by September 15, had been issued in N.S.W. I have been told by a fruit inspector here that the larvae of the Fruit Fly will not hatch in Passionfruit. I have also been shown Passionfruit with callous lumps, which I was told contained the larvae of Fruit Fly on the skin. A grower told me that his Oranges were entirely free from Fruit Fly, while those of his neighbours were affected. He attributed the condition of his orchard to the fact that he had a row of Passionfruit in it. He also told me that there were callouses all over the Passionfruit, but that the eggs would never mature. I would like to know if this is a fact or not?

Answer (by Geo. W. Wickens, W.A. Department of Agriculture):—You are quite correct in saying that Fruit Fly will not hatch in Passionfruit. You mean, of course, *Passiflora Edulis*, or some other of the hard-skinned varieties. The soft-skinned types make quite suitable hosts for the pest. The calloused lumps described formed on the skin of the Passionfruit after the fly has inserted its ovipositor, but the larvae of the Fruit Fly is not contained in these calloused lumps, as stated, for the eggs do not hatch. With reference to your statement that on account of the presence of Passionfruit in an orchard the

Oranges near them had remained entirely free, is something that I cannot vouch for.

SUMMER PRUNING OF APPLES.

"A.F.," Manjimup, W.A., writes:—There are some pruners here who prune their trees during the summer, and by this method they claim to be able to obtain a regular cropping of their trees, and also to be able to increase the size of the trees in general. Personally I have done a little summer pruning, but with no evident benefit in one way or another. I would therefore esteem it a favor if you would kindly comment on the "Summer Pruning of Apple Trees" in the "Fruit World."

Answer (by Geo. W. Wickens, W.A. Department of Agriculture).—No fruit trees will increase in size as a result of summer pruning. The only effect that can be produced so far as the size of the tree is concerned is to lessen the growth, though this lessening may be only slight if the tree is strong and vigorous, but if the tree is weakly, the effect will be noticeable. Summer pruning of Apple trees to increase cropping was a common practice in orchards a good many years ago, when short spur pruning was the usual method of treating bearing wood. Now, with wider knowledge of the subject, better results are obtained by efficient treatment of lateral growths.

Cool Storage.—"A.D.," Bedfordale, W.A., writes:—What is the best type of

refrigerator for 1,000-case cool store, (a) An ammonia machine, or (b) a machine using sulphur dioxide or other gas?

Answer (by R. Werner & Co. Pty. Ltd., Richmond, Victoria).—An ammonia compressor would be preferable, as in most cases the drive is by an oil engine, and ammonia refrigeration is most suitable for engine drives. Further, an ammonia compressor is more easily understood and serviced by mechanics who may not have the full working knowledge of refrigeration.

For a 1,000-case cool store it would be wise to instal at least a 2-ton machine, which would allow for a little extension, and it is doubtful whether the sulphur dioxide machines can be obtained in 2-ton capacity suitable for driving from an oil engine.

SICK ORCHARDIST HELPED.

A kindly act is reported from N.S.W., in which neighbours and friends of a war-injured orchardist assembled on his orchard and picked, graded and packed his Citrus crop while he lay in the Prince Alfred Hospital, Sydney, suffering from the after-effects of gas poisoning. Mr. R. L. Maroney is one of the pioneer Citrus orchardists of Mangrove Mountain, near Gosford, and is so highly esteemed that when the call went out, 30 neighbours responded, some having to travel long distances to assist. A working bee of a dozen women provided refreshments for the volunteer workers during the operations.

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Home Notes

and Recipes.

HEALTH NOTES.

BELIEVING THAT REAL SERVICE can be tendered to our readers per medium of this column, we plan to include in each issue general advice along health lines. It will not be highly technical, but its suggestions will be as practicable as we can make them, in the hope that readers may profit from the advice given, and may be encouraged to make a greater effort to retain their good health by sensible precautions and plain, wholesome living, or to improve it by devoting some thought to such subjects as we shall introduce from time to time. We make no apology for urging the public to eat more fruit, since this form of food is one of Nature's greatest contributions to the needs of mankind, consequently we propose to print many recipes and methods of serving fruit dishes in both palatable and healthful forms.

Eating for Health.

Surprising as it may seem, statistics show that there is as much trouble with digestive disorders, stomach complaints and under nourishment in the country, where good, wholesome food is abundant, as there is in the cities. Dietic troubles are quite independent of the amount of money spent for food, and the most expensive meals are not always the most wholesome. The main troubles can be briefly summarised under a few headings: 1. — Lack of knowledge of food values and which foods best meet natural requirements. 2.—Bad eating habits, chief of which is undoubtedly eating too fast, eating too much, eating when too tired, and heavy night suppers. 3.—Poor cooking, largely covering too free use of fat and the frying pan, and soggy food that is hard to digest. 4.—Poverty, in which quantities of cheap food are consumed, often with little or no nutritive value.

There is a vast difference between appetite and hunger. Appetite is largely the result of habit, and becomes prominent about the regular meal time, but is not always dictated by hunger, which is really a muscular contraction caused by an empty stomach. The suggestion comes, therefore, that if we could take our meals only when we are hungry, instead of at regular periods set by convention, we would be much more healthy.

In order to properly nourish our bodies we should get from our food the following properties in correct quantities:—1. Proteins. These are to build and repair the tissues of the body. Milk is a valuable protein food. Whilst children require food both for growing and for replacing burnt up tissue, adults require only to replace tissues broken up by work and exercise. Most of us use an excess of protein. If we can use it up it is no detriment, but if not used it becomes fat, and explains why it is so easy for inactive adults to put on so much flesh.

2. Carbohydrates. These supply fuel for warmth and energy. Sugars and starches are pure carbohydrates, and create the quickest forms of body fat.

3. Fats. These also provide heat, and are a quick form of fuel. After being broken up and digested they are largely stored as body fat.

4. Minerals and Vitamins. These offer a large field for study, but viewed briefly, they should be properly balanced. A varied diet of milk, eggs, fresh vegetables and fruit will mostly meet the requirements of this class.

5. Water and Bulk. These are both necessary for proper digestion. Raw and leafy vegetables, fruit, whole grains (but not white flour) are the chief sources of bulk and roughage, whilst water provides the flushing necessary for the proper functioning of our organs.

PINEAPPLE JUICE.

That the juice of the Pineapple is an agent for the cure of pyorrhoea is the contention of Dr. Hanke, of the University of Chicago, U.S.A. Another eminent scientist, Dr. J. R. Killian, of the University of Hawaii, after two years research, has declared that canned Pineapple is one of the most consistently reliable anti-scorbutics available to the majority of people, since it has a high content of Vitamin C.

In experiments undertaken in connection with the Indian disease, beri-beri, a nutritional disorder, canned Pineapple was found to contain sufficient quantities of Vitamin B to prove very valuable in combating the disease.

Tests by meals given to a large number of subjects revealed that the addi-

tion of Pineapple stimulated the protease activity of the stomach, and speeded up the digestive process. Found to contain iron, copper and manganese in an assimilable form, the vitamin content of the Pineapple was not injured by canning.

ORANGE SEEDS.

A London dietitian has announced that Orange seeds should be chewed and swallowed instead of being thrown away. He claims that they contain 30 per cent. as much antitoxic properties as Orange juice.

MILK, FOR YOUNG AND OLD.

According to dietitians, who make a study of food values, one quart of milk supplies about the same amount of bodily energy as $\frac{1}{2}$ lb. of beef steak, or $\frac{4}{5}$ lb. chicken, or 9 eggs, or 2 lbs. Potatoes or 3 lbs. Beans. Whilst they admit that all of these foods build health and are important in diet, the comparison helps to bring out the essential part milk plays in contributing to the fuel or energy requirements in food.

Milk is an all-round food, and should be included in all diets for both young people and adults. It contains practically all the elements that the human body needs—minerals, vitamins, proteins, sugars and fats—all necessary for building a healthy body and warding off disease.

The form of taking milk is not important. Some persons like it cold, but it should not be much below body heat. Others prefer it warm. Still others prefer it when flavored with cocoa or used in soups, desserts or sauces. Milk should not be regarded as a beverage and should not be gulped down as such. Sip it slowly; get the flavor out of it. Do not use milk merely to quench the thirst; it is a food! The gastric juices of the stomach cause milk to curdle shortly after being swallowed. If milk is drunk rapidly the digestive process will be slow and difficult.

Children especially need plenty of milk. Rest has no charm for them. No healthy child will remain quiet for long while awake. He waits a minute or two perhaps, and then he is active again. An active child is burning up his energy

all the time. Give him good fresh milk—a quart a day if possible. For adults a pint a day is advised, but if underweight or convalescent a quart a day. For expectant mothers, a quart a day is advised.

Milk has wonderful food value. Taking milk regularly is the surest and easiest way of giving your body the variety of food materials it requires to keep it in good physical condition.

FOOD POISONING.

With the coming of summer, greater care should be taken in the keeping of food, cooked pork and beef especially. Cold meals, picnic lunches and make-shifts lend themselves to danger from poisoned food.

The trouble generally appears some hours after a meal, and unfortunately usually affects a large number of people at the same time. Sudden abdominal pains are generally the first signs, or cold sweats and a splitting headache, the victim collapsing early.

The treatment, while awaiting the arrival of a doctor, is to keep the patient warm, in bed or well wrapped up. Give large dose of castor oil, but no more food until all poison effects have ceased. Plenty of pure water may be taken after the oil has done its work.

ELEVEN AGES OF MAN.

Expressed in menu form, the eleven ages of man are:—

- 1.—Milk.
- 2.—Milk and bread.
- 3.—Milk, bread, eggs and spinach.
- 4.—Oatmeal, bread and butter, green Apples and all-day suckers.
- 5.—Ice-cream sodas and hot dogs.
- 6.—Beef steak, fried Potatoes, coffee and Apple pie.
- 7.—Beef tea, roast duck, scalloped Potatoes, creamed Brussels Sprouts, fruit salad, ice-cream, demi-tasse, nuts and cigars.
- 8.—Pate de fois gras, toasted savaloes, Potato Parisienne, Egg Plant a Papera, Roquefort cheese, demi-tasse, coffee and cigars.
- 9.—Two soft-boiled eggs, dry toast and milk.
- 10.—Biscuits and milk.
- 11.—Milk.

—Contributed.

Reward.

"Just think, while I was out with some fellows the other night a burglar broke into our house."

"Did he get anything?"

"I'll say he did—my wife thought it was me coming home."

Inspector: "It isn't healthy to have your house built so close to the pig-pen."

Farmer: "Well, I dunno. We ain't lost a pig in fifteen years."

XMAS OR NEW YEAR PUDDING.

One lb. Raisins, 1 lb. Currants, $\frac{3}{4}$ lb. brown sugar, $\frac{1}{2}$ lb. butter, 3 cups grated breadcrumbs, $\frac{1}{2}$ lb. mixed Lemon peel sliced, grated nutmeg, 1 teaspoon mixed spice, 8 eggs (leaving out half the whites), must be well beaten, 1 wine-glass dark brandy, $\frac{1}{2}$ pint sherry.

Beat butter to a cream, and as each item is added, beat and mix well. Then add the sherry, yolks of eggs and the whites beaten to a stiff froth. Then add the fruit, peel and spice next, and the breadcrumbs. Mix well together and moisten with the wine, to which the brandy has been added. This pudding should be made the day before it is cooked. Let it stand overnight and boil for 7 or 8 hours. If the mixture is too stiff add a little more wine. The pudding can be kept for months, and only requires to be boiled again for two or three hours.

CHRISTMAS CAKE.

Ingredients— $\frac{1}{2}$ lb. self-raising flour, 1 lb. plain flour, 1 lb. butter, $\frac{1}{2}$ lb. mixed peel, $\frac{1}{2}$ lb. Currants, $\frac{1}{2}$ lb. Raisins, $1\frac{1}{2}$ lbs. Sultanas, $\frac{1}{2}$ lb. Cherries, 1 lb. brown sugar, $\frac{1}{2}$ lb. chopped Almonds, 2 teaspoonsful mixed spice, $\frac{1}{2}$ teaspoonful salt, 10 eggs, 1 tablespoon treacle, $\frac{1}{2}$ teaspoon bicarbonate of soda.

Beat butter and sugar to a cream, add eggs separately, beating well each time. Sift flour, bicarbonate soda, and spice well, and add alternately with fruit. Warm treacle, add it last, and beat till thoroughly blended. Bake in a well-greased, paper-lined tin, $3\frac{1}{2}$ to 4 hours in an oven which is hot to begin with, but ten minutes after reduce heat gradually till a slow, steady heat is assured.

FRUIT DRINKS.

Lemon Syrup.

Take the juice of six Lemons, grate the rind of three on to it, and let it stand overnight. Then take 3 lb. of sugar and make a thick syrup. When it is quite cool strain the juice into it, and squeeze as much oil from the grated rind as will suit the taste. Put into bottle, corked tightly. When required, put a tablespoonful into a tumbler and fill with iced water.

Fruit Cup.

One cup Orange sections, 1 cup white Grapes, 1 cup Pineapple dice, $\frac{1}{2}$ cup Orange Juice, $\frac{1}{2}$ cup Pineapple syrup, few grains salt, $\frac{1}{2}$ cup sugar. Remove membrane from Orange sections and skins and seeds from Grapes. Mix fruit, Orange juice and Pineapple syrup; add salt and sugar. Pack in ice and salt until thoroughly chilled. Serve garnished with Cherries.

Poultry Notes.

IN PRACTICALLY ALL orchards the work is departmentalised, and the housewife generally looks after the family supply of eggs from the poultry yard. As a rule this work is done very efficiently, but occasionally the egg supply fails or weakens, and the trouble is not traced to the management being accorded to the flock. It is with the object of assisting housewives in this important department of their busy lives that we propose to give space in each issue for advice upon feeding, management, breeding, housing, etc., of poultry. Should any reader wish advice upon their own particular poultry problems, we will be glad to assist them by replying to any questions received. —(Ed., "F.W.")

The first requirement of a poultry yard is that the hens will lay eggs, therefore the strains that produce the most eggs are the ones that should be stocked. Unless wanted for scenery only and to provide that "farmy" appearance, the stock should be selected as carefully as trees and varieties are decided upon for the orchard.

For general utility, it is advisable to select birds from a strain that has a consistent egg record behind it. Stock of this description can be readily obtained from reputable breeders whose birds have performed consistently in one of the many egg-laying competitions in the various States.

For the ordinary house requirements of the orchardist, the use of the more common breeds such as White Leghorns or Australorp will generally be found to be the most suitable. If, however, breeding is contemplated later on, it is important that the male or males be selected from a reliable breeder whose stock has been bred on pedigree lines and tested for reproduction.

Feeding.

The matter of feeding is important. It is not sufficient to simply feed the birds with kitchen scraps and a handful of grain. Correctly balanced rations are necessary if the birds are to return a good production of eggs and if they are expected to work for us they are entitled to sufficient food of the correct quality and in the proper proportions of the various constituent parts with which to make eggs.

The question of dry mash or wet mash arises. Each has its advocates amongst poultry breeders, and is dependent upon seasons and climatic conditions as well as upon the method of management accorded.

Just now, with young birds well on the way, the following suggestion might be helpful to some of our readers.

A Good Growing Mash.

A growing mash for chickens, up to laying age, can be made from the following proportions of the most common foods used: 50 lbs. pollard, 30 lbs. bran, 5 lbs. bone-meal, 5 lbs. meat-meal or powdered buttermilk, 10 lbs. maize-meal or oats pollard. If the birds are confined in pens, about 50 per cent. of chaffed green feed should be added, but if on an open run with access to good green feed, no addition will be needed.

Should skim milk be available it should be used instead of either meat-meal or buttermilk and employed in the mixing of the mash, figuring on one gallon of milk approximating 10 lbs. in weight.

To Cure a Broody Hen.

Many and various methods were adopted in times past to force unwanted broodies back into lay again, some of them were cruel and although they may have cured the broodies of wanting to sit, the treatment was detrimental to their early return to production. Nowadays a more humane and satisfactory method is adopted. The system is to isolate the broody in a special coop fitted with a slatted floor and placed in full view of the other birds in the open. If the coop is raised on legs so that a free current of air can circulate around it, the broodie will not get that comfortable, dopy feeling that she anticipates, and the noise and activity of the other birds will assist her in getting back into their company. If put on a low diet and with half a teaspoonful of Epsom salts in her mash, her temperature will be reduced and in a few days the desire to sit will leave her and she will get back to normal and shortly afterwards should begin to lay again. After all, broodiness is a natural reaction to nature in a hen and sensible methods should be adopted to meet it.

Red Mite.

This pest is common on poultry farms wherein proper perching facilities are not provided. The mites live in crevices in the walls or perches and creep out when the fowls are roosting, suck their blood and crawl back into their hiding places before daylight.

Spraying the sheds with a kerosene emulsion will generally free them from the pests, but in addition the perches should be painted with creosote or sump-oil and allowed to dry before the birds are allowed to roost.

To make a kerosene emulsion, dissolve $\frac{1}{2}$ lb. soft soap in one gal. boiling water, slowly add 1 gal. kerosene, stirring well for few minutes. After being well mixed, add 8 gals. soft water and the solution is ready for spraying, but should be stirred occasionally during the spraying operation.

Scaly Leg.

All kinds of poultry, including turkeys, are liable to suffer from this trouble, which is caused by a minute mite burrowing under the scales of the legs, setting up irritation and causing small blisters which eventually burst.

Affected birds should be treated individually. Dip the feet and shanks in warm, soapy water to soften the scabs, Remove as much scab as you can with a nail brush and then dress the legs with crude petroleum, vaseline or a mixture of 2½ to 5 per cent. phenol disinfectant solution.

Pig Rearing.

THOSE WHO PLAN to rear suckers should take care when selecting a sow for breeding purposes to see that she has at least twelve teats. There is a good point in this advice. A 10-teat sow may be a good breeder, but a 12 or 14-teat mother is generally a better choice. The more young pigs a sow can suckle and bring to the weaning, the lower will be the cost of production, and unless she has the teats she cannot satisfactorily suckle her pigs. As in all animal pens, the strongest youngsters will take the best places, in this case the teats nearest to the fore-quarters, but if there is plenty of room and the mother is in good condition, every sucker should do well with say a 14-teat sow. The loss of young pigs between birth and weaning is comparatively heavy, even under good conditions.

Feeding and Heredity.

In a broadcast talk recently given by Mr. A. D. Buchanan Smith, of the Institute of Animal Genetics, Edinburgh, reported in the "Tasmanian Fruitgrower and Farmer," some very interesting statements were made regarding the influence of heredity upon bacon pigs.

As feeding accounts for about 75 per cent. of the cost of production, the greatest economy can be effected by breeding from a strain of pigs with a low consumption of food per pound of weight gain. Experiments showed that the greediest litter consumed nearly 4½ lbs. of food for one pound of live weight gained, whereas the most economical litter ate only 2½ lbs. for every pound gained. This difference of 2 lbs. of food, totalling 2 cwt. during the pig's lifetime, is equivalent to 12/- in the cost of production.

He stated that in an analysis of five boars, it was found that the meal equivalent varied from over 4 lbs. to 3 lbs., which gave a difference of 6/- to 7/- per pig. If a greedy boar sires 200 pigs in his lifetime it is calculated that his progeny will cost £70 more to produce than the progeny of a more thrifty strain. The difference in food consumption between a reasonably economical pig and a greedy pig may amount to 10/-, making or destroying the farmers' profit on production.

Rickets.

Pigs fed on any combination of cereals with milk added, seldom develop rickets. Should milk be absent, or given in very small quantities, rickets are likely to develop owing to the deficiency

of lime in the cereals. Pigs run in plenty of sunshine and with access to a grassed paddock and fed on skim milk, maize meal, pollard or barley, potatoes, pumpkins or wheat, will rarely suffer from rickets. Should milk be scarce, add to their diet two parts of ground limestone and ½ part of salt to 100 parts of their feed to supply the necessary lime content.

Site for the Piggery.

Where a number of pigs are to be run, the site is much more important than when only one or two pigs are penned. The weekly notes of 10/11/34 issued by the N.S.W. Department of Agriculture give the following advice regarding this matter:—

Apart from the regulations under the Dairies Supervision Act, under which pigs may not be kept nearer than 50 yards from any milk room, bail, or yard, several points are to be considered when choosing a site for the piggery. In the first place the site on which the piggery is to be located should lend itself to being effectively drained. It should have a gentle slope, without being steep, and if the aspect is to the east, it will be so much the better in the greater part of the State. The drainage should be of a surface kind, the result of the fall or slope, and should not depend upon underground drains, which are apt to get choked up and can never be kept in the same sanitary condition as those to which the sunlight has access.

If there is a piece of rough ground on the farm that is conveniently situated and otherwise satisfactory, it may be very suitable for the piggery. Regard must be had, too, for the position of the residence, for if the prevailing winds carry the smell of the piggery to the dwelling, one or other will probably have to be moved quite soon.

Light, absorbent sandy loams are preferable to stiff clays or soils with a clay subsoil. Clays are apt to become saturated with offensive matter in time, and thus to give rise to unhealthy conditions, especially during wet weather. Where there is a good fall, however, clays are less objectionable.

HUMOR.

Wife: "Why are you counting your fingers?"

Farmer: "I just shook hands with an insurance agent."

Very Stout Lady (to doctor): "What slimming exercise do you recommend?"

Doctor: "For the present you should skip a few meals every day."

"From to-morrow onwards I shall alter my diet. Nothing but fruit—no bread, no cakes, or pastry."

"Doctor's orders?"

"No; the baker won't give any more credit, but the fruiterer will."

Motor Cars and Trucks

Useful Hints

TYRE CARE.

MOTOR TRANSPORT is so dependent upon tyre efficiency that no excuse is necessary for constantly advising drivers to preserve their tyres in the best possible condition. Should a tyre be badly cut, clean the cut thoroughly and fill it with some good make of tyre filling compound to keep out dirt and moisture which will work its way into the cord casing and destroy it. If a sleeve is put in, make sure that it has no sharp or hard edges or bulge, otherwise the tube will be chafed and wear through with use. Though a sleeve is often a good temporary expedient, the casing should be properly fixed by a tyre specialist at the earliest convenience.

Deflated tyres should never be run under any circumstances as the weight of the truck will crush the walls and ruin the tyre. The habit of some drivers in hitting the sharp edge of a kerb every time they park end-on is to be deplored and cannot fail to affect the walls of the tyres. Careful driving gives longer tyre life.

In this connection the Goodyear Company give five things to watch in order to get more mileage out of tyres:—

1. Do not over-inflate. Tyres too hard wear more quickly. Do not under-inflate. This causes scuffed treads and uneven wear. Check inflation every week. It pays!
2. Check wheel alignment twice a year so that the tyres will ride the road properly.
3. Keep brakes properly adjusted; avoid sudden stops; slow down gradually whenever possible.

4. Avoid starting off too rapidly and drive around turns at a moderate speed.

5. When replacing worn tyres with new ones, put in new tubes also as the old, worn, stretched and wrinkled tube will cause pinching and chafing, resulting in leaks or blow-outs.

DON'T TRUST THE JACK.

The lifting jack is one of the important articles in a tool box, and is used for many purposes, but care is advised when the truck is jacked up and someone is working underneath. Several instances are known in which the jack has collapsed or the car has rolled off the jack, causing injury to the operator. The jack alone should not be depended upon to support the truck, nor should empty cases be trusted, stout blocks of wood or strong wooden horses are the safest supplements to the lifting jack.

THE RADIATOR.

A good method of cleaning the sediment which attaches itself to the lining of the radiator is to flush it with a mixture of half a pound of lye dissolved in 6 gallons of water after draining off the original water. Run the engine for a few minutes, then draw off the mixture. To make sure all the mixture is removed, flush the radiator again with clean water, and run the engine, then empty the radiator and fill it again ready for use. If some exception is felt to putting lye into the radiator, open the turn-cock drainer, and place a hose in the filler, and let the water run through the radiator until it escapes quite clean. Run a wire through the overflow pipe while cleaning the radiator, and make sure that the passage is free.

Should the radiator have moths, flies, etc., adhering to it, hose them out by lifting the bonnet and squirting the water outwards, without the danger of getting water into the electrical equipment.

CHOKED EXHAUST BOX.

A simple thing like neglect of the exhaust box may cause quite an appreciable loss of power. Experiments recently conducted proved that at least 10 per cent. of power was lost on an aero engine purposely provided with a partially choked exhaust box.

The damage can be done by actual sooting up of the box or condensation and rust, or by dents that affect the service of the exhaust box. Even in an overhaul this fact is often overlooked. Keep the exhaust box reasonably clean, and look for the cause of lost power elsewhere.

SPARK PLUG GAPS.

It is not sufficient to have new or good spark plugs, the correct gap setting is of equal importance. Too wide a gap will cause hard starting, loss of power with heavy loads, uphill or high speed, generally indicated by misfiring. On the other hand, too close a gap will cause misfire even at a slow speed.

To get maximum efficiency, see that the gap is set in accordance with the recommendation covering the particular class of engine concerned. But, remember, two other things: use your plug-set-gauge, and keep the plugs clean and whole.

SYNTHETIC PETROL.

Many attempts have been and are being made to discover a satisfactory synthetic petrol that will give good results, and that can be economically produced. With the present inability of Australia to discover oil deposits in payable quantities, almost any means of providing power alcohol is immediately interesting.

A report comes from Queensland that a suggestion for making power alcohol from Maize is receiving considerable attention, and a committee of farmers in the Ipswich district are investigating the proposal. It is advised that a factory costing £60,000 would be able to

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treat 200,000 bags of Maize under the proposed method of extraction. The Government of New Zealand is also reported to be favorable to a similar scheme.

In the Dutch East Indies tests are being conducted for the manufacture of power alcohol from raw sugar by-products.

THE FAN BELT.

The fan belt is often run as either too loose or too tight. Both conditions give poor results. If too tight there is undue wear, and if too loose the belt is liable to slip, and not perform its best function. Should the slipping result from oil or grease saturation, a little ground resin will cause it to grip again, or it should be washed with hot, soapy water, replaced damp, and be allowed to dry on. Reversing the fan belt is a good procedure at times. As with most general faults, common sense should be applied in looking over the working parts of the vehicle. Grease cups should be filled often, and bearing points given the requisite lubrication. More fan belts need replacing because of inattention than from ordinary wear.

THE MIXTURE.

If the engine is hard to start when cold or does not idle correctly it generally indicates that the mixture is too lean. Whilst pulling out the choke will improve things, the better thing is to discover the cause. If the engine backfires upon quick acceleration or upon a hard pull, the mixture is too lean.

On the other hand, if the mixture is too rich the engine will race when idling, and will load up in quick acceleration. It will sometimes also be hard to start, particularly when hot. To correct this, if the carburetter is fitted with an air valve, open the valve slightly.

One check for rich mixture is to depress the clutch after a long, hard pull, at the same time opening the throttle fully. If the revolutions do not gather immediately, a rich mixture is indicated.

BRAKE BANDS.

On crowded, hilly or curved roads, safe brakes are most essential, and often decide the safety or otherwise of the vehicle. Most brakes are easy to tighten nowadays, yet some drivers prefer to take a risk with worn or non-gripping brakes. To prevent water getting into the brake bands or drums when washing down, a good plan is to pull the brakes hard on. Even then they should be tested immediately the vehicle is put on the road again to satisfy the driver that they are functioning satisfactorily. When driving through heavy rain with the brakes off, care should be taken to see that they have not become saturated. An occasional application of the

brakes under such conditions is recommended.

To clean brake bands, squirt a syringe-full of kerosene on to the bands occasionally; this helps to keep them clean, by dislodging the dirt and oil which often works into the fabric and causes the brakes to squeak.

DEAD BATTERY.

A somewhat common, though careless, cause of dead battery is leaving the ignition switch turned on when the engine has stopped from some cause other than being switched off. Though the battery may not have enough life to work the self-starter, even a little power will allow starting by the handle. Should this fail, the temporary fixing of a small pocket 4-volt dry battery in parallel with the main battery will often give the necessary spark at the plug to effect a start. Should such a start be made, and the battery fail to charge sufficiently to start the engine again after a stop, while the engine is still warm, a check-over for water, short-circuit and defective cells is indicated as necessary. It is a good habit to school yourself to make sure the switch is turned off every time the engine stops.

DISABLED VEHICLES.

Drivers are reminded that disabled vehicles being towed must be only a reasonable distance from the towing car, and that the tow-rope should have a red flag or other warning signal that there is a connection between the two vehicles. In the case of a night towing, not only must the towing car show all lights, but the towed car must show its headlights on to the connecting rope, as well as display a rear light.

Not only are these regulations required by the traffic department, but they are reasonable precautions against cars attempting to pass between the two cars concerned, and are therefore wise precautions to be taken. The working factors, as in most motor regulations, are care and common sense, and if all drivers used these precautions there would be fewer road accidents.

Clean Out the Petrol Tank.

Periodically it is a worth while job to drain the petrol tank and flush it out. It is remarkable how dirt gets into the enclosed tank and may be sucked up into the vacuum tank or cause a block in the feed system somewhere, therefore, at least once a year, when the tank is almost empty, clean it thoroughly and make sure that you are getting clean petrol into the engine.

There is no need to waste the petrol drained or that used for flushing for, if allowed to stand in a clean vessel, it will settle and the clean petrol can be put back into the tank.

DANGEROUS HEADLIGHTS.

A constant danger in night driving is that resulting from wrongly adjusted headlights. Not only are glaring headlights dangerous to the oncoming driver, but they may not illuminate the road sufficiently for the driver to properly see the road ahead, sudden turns, or, worse still, slow-moving horse vehicles often poorly lighted. In Victoria, traffic regulations do not require that dimming be done when approaching an oncoming vehicle, but they do place the onus upon drivers to see that their headlights are not a danger to others, also that they are properly focussed, and bear upon the road ahead at a reasonable distance.

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THE ... Market Grower

Items of Interest

Official Organ of the Market Gardeners and Fruitgrowers Society of Victoria.

President: E. A. Le Page.

Vice President: Cr. A. Bunny.

Committee: G. Ryan, C. James, C. Baker, L. Lawrence, J. Hawkes, J. Stocks.

Arbitration Committee: H. V. Barnett, W. Simmonds, E. A. Le Page, H. Besant, W. D. Barnett. Secretary: Cr. C. C. A. George, Highett Road, Moorabbin, Vic.

The Soy Bean.

100 Different Uses.

At one time Japan was the principal producer of the Soy Bean, but research has now proved that this valuable vegetable can be made to produce more than 100 different by-products. The practical Henry Ford is experimenting with this plant for conversion into all classes of fabricated building materials and compositions.

Illinois has become one of the leading States in America in the production of Soy Beans, and a Chicago company is now constructing a large mill that will consume annually about one and a half million bushels of Soy Beans. The new plant will cost in the vicinity of £100,000, and will occupy about 2½ acres of land.

The main objective of the new mill will be to extract oil for the manufacture of paint, in which the company concerned is chiefly interested, but many by-products will be processed. Under a new solvent process of extracting the oil it is estimated that it will leave only half of 1 per cent. of oil in the refuse, as compared with 5 per cent. under the old pressing system of extraction; moreover the stock foods manufactured from the offals rejected will be of better quality than formerly. Concrete silos with a capacity of 125,000 bushels of Soy Beans, sufficient for one month's supply, will be part of the mill equipment.

The Victorian Agricultural Department is at present experimenting with the cultivation of the Soy Bean, to ascertain if it can be economically produced in this State, and the best uses to which it may be put.

VICTORIAN FLOWER GROWERS' ASSOCIATION.

Cr. C. C. A. George, Secretary of the above Association, reports that owing to the date of the monthly meeting falling on Cup Day, the November meeting was held on 13th, but was not as well attended as usual.

Negotiations are now under way with the Melbourne City Council regarding better facilities at Victoria Markets. Two conferences have been held and it is hoped that practicable alterations in locations will shortly be announced.

Plans for the half-yearly meeting in January and for the Annual Picnic are receiving the attention of the Committee.

FROST-RESISTING POTATOES.

In an attempt to secure frost-resisting varieties of Potatoes, which can be crossed successfully with ordinary Potatoes, the Council for Scientific and Industrial Research has approached the Imperial Bureau of Plant Genetics at Cambridge (England) with a request that samples of the tubers be released to Australia for experimental purposes.

NEW VEGETABLE.

In Eugene Arnett's garden in Putnam City, U.S.A., a new vegetable is growing, which might well be named a "Gourd-Cumber."

Mr. Arnett states he has successfully crossed the Spanish Gourd with the native Cucumber, the result being a small vegetable, greenish in color and about the size of a small Pomegranate. It tastes like a Cucumber.

PERSONAL.

Mr. N. Laudani, fruiterer, of Burgundy-street, Heidelberg, recently received injuries when his horse-drawn cart overturned when rounding a corner. Fortunately, a doctor's attention was all that was required, and Mr. Laudani was allowed to return home.

EMBARGO ASKED ON S.A. TOMATOES.

Action by Victorian Growers.

Partly in reply to South Australia's embargo on all Tomatoes and Tomato plants from entering her borders from other States, as well as to assist the marketing of Victorian Tomatoes, the Dimboola and Echuca Tomato Growers' Associations have decided to petition the Minister of Agriculture to impose an embargo upon South Australian Tomatoes being permitted to arrive after the Victorian Tomato season commences.

A deputation of growers, headed by the Parliamentary representatives of the districts concerned, will shortly wait upon the Minister.

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Tomato Varieties

Trials that were conducted last season by the N.S.W. Senior Agricultural Instructor on the property of Mr. E. Kennett, Narellan, show that the Earliana variety is the best early type, particularly on new land, where the danger from fusarium is small.

A new variety, Low Branch, from U.S.A., was so remarkable in the trials that the whole of the fruit was allowed to ripen on the vines and was saved for seed. It proved to be a heavy yielder of high-quality Tomatoes. The fruit is large, round, of good color and flavor, and keeps well.

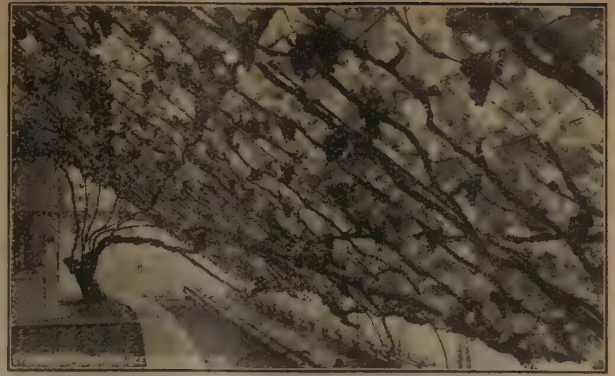
The best reports in the trials come from Sunnybrook Earliana, 344 lbs. from 70 plants; John Bear variety, 342 lbs.; Break-O-Day, 327 lbs.; Columbia, 289 lbs., and Bonny Best, 283 lbs. Other varieties tested were Somner's Long Keeping, Rapid Red, Marglobe, Marvel of the Market, Sendan, Purple Top and Norton.

A Famous Grape Vine

Australian visitors to London invariably include Hampton Court in their list of visitations. It is remembered for its history as a Royal Palace, and is one of the show places in easy access to London's hosts of visitors.

Built by Cardinal Wolsey, who afterwards presented it to Henry VIII., it contains 1,000 rooms, and is full of old period furniture, tapestries, paintings and relics of a long but historically valuable past.

Not the least interesting sight at Hampton Court is a giant vine over 150 years old, still bearing luscious grapes.



The Famous Grape Vine at Hampton Court.

It was planted as a cutting in 1768. Its girth of stem at ground level is 6 ft. 9 ins., whilst it is 5 ft. 11½ ins. in girth at one foot above the ground. Roots extend 25 feet from the stem towards the Thames River. Its record crop was 2,200 bushels, weighing over two tons, in one year. A huge glass-house covers the entire vine, and when bearing it is a grand sight, as the picture suggests.

Her Majesty the Queen allows the Grapes to be sold and the proceeds devoted to charity, and there is a great demand for the fruit. Visitors are allowed within the glass-house upon payment of one penny, and even this humble fee brings in a surprising amount during a year.

Hot-house Grapes bring a big price in London during the out-of-season period, and good samples bring from 5/- to 15/- per pound.

New Dwarf French Bean

ONCE "ACME" ALWAYS
SOWN GROWN
FIVE GOOD REASONS WHY YOU
SHOULD SOW "ACME."

1. Much earlier than other types.
2. Exceptionally prolific.
3. Great disease resister.
4. Produces a perfect long green Bean, ensuring TOP market prices.
5. Covers 60 per cent. more sowing space than equal quantity of Canadian Wonder.

2/6 PACKET.

Prices for Large Quantities Posted on Application.

ONE OF MANY TESTIMONIALS:

Dear Sir,—Regarding the trial carried out this midsummer with your Acme Bean. I am pleased to be able to inform you that the Acme showed out to even greater advantage than in the spring trial, when the yield over Canadian Wonder was just 3 to 1 on the first picking.

Planted early in December, with Pale Dunn and Canadian Wonder, in rows 45 feet long, the Acme gave 12 lbs. of splendid quality pods on the first pick, while the other two varieties named each gave ½ a lb. of curled, unmarketable Beans. This may sound fabulous, but it is nevertheless a fact. It is difficult to raise Beans here in the midsummer. The Acme is easily the best summer Bean I have yet tried.

Yours faithfully, M.C.G.

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POTATO CLEANING MACHINE.

Commercial Potato growers in America believe that appearance helps to sell their produce and a new Potato brusher, cleaner and grader is now announced which is claimed to be able to clean and polish Potatoes or Onions while it grades them at a speed of 250 bushels per hour. Patents have been applied for and the company has embarked upon a publicity campaign to sell the machine.

WATER FOR HEALTH.

There are few more important questions relating to health than the use of water, both as consumed in the body and as applied externally. Seventy per cent. of the body weight is composed of water, and a similar proportion of all food and drink consumed under normal conditions is likewise water. Without water man cannot live more than a few days, while it is possible to live on water alone for many weeks. Water is a vital requirement, because of the elements it contains, especially oxygen.

People who habitually drink too little water experience a beneficial change in health when attending to this simple but

valuable health habit. Those who do not drink sufficient water often show a high density of indican (glucosid) in the urine. If we do not drink water the body will take it from the intestines or colon, and a form of constipation will set in.

Remember, that the purest water is obtained from fresh fruit, one of Nature's most wonderful provisions. The many water cures, spas and fashionable mineral baths bear witness to the efficacy of water in restoring health. Their great value and high cost are fairly well known, but what is not generally known is that the same treatment can be achieved in one's own home at little more cost or trouble than is required to develop the habit of cleaning one's teeth or attending regularly to the calls of the body.

Applied externally, water has much value as a remedial or preventive agent. Cold water invigorates, stimulates and strengthens the vital organs of the body, the heart, lungs and nervous system, whilst hot water soothes, rests and relieves pain. Therefore, to be healthy, get the water habit! Drink it as a beverage, take and use it as a medicine, a tonic or a sedative, finally swim in it and take your summer exercise in it if at all possible.



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Phones—MA 2612 and K 2317.

Telephones: Est. 1896.
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Australian and New Zealand Fruit Trade

Market Notes and News — Prices, etc.

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS.

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Sang Goon & Co., Wholesale Fruit Market.
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Stott & Sons, T., Wholesale Fruit Market.
Tim Young & Co. Pty. Ltd., Wholesale Fruit Market.
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Wilson, H., Pty. Ltd., Wholesale Fruit Market.
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Fruchthandel, Gesellschaft.

Hamburg:

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Int. Fruit Import Gesellschaft.
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GERMANY.

Trade with Germany

Interesting Letter from Fruit Importing Firm

"We Can Only Trade With Those Countries Which Trade With Us."

THE GERMAN VIEW of mutual trade is set forth by a Hamburg fruit importing firm, J. H. Lutten & Sohn, in a letter sent by them to their Victorian representatives, Messrs. Parnham Pty. Ltd., of Melbourne, dated October 1, 1934.

Extracts of Messrs. Lutten's letter are as follows:—

"Regarding New Germany. We are glad to report that the whole population is now behind our Chancellor, Adolph Hitler, and he and the whole of Germany are working in harmony. Further successes are notable. There are no strikes, and out of six million unemployed people, four million are again in work, and it is expected the remaining

two million will be working during the next two years.

Re Business. There are no prohibitions of imports into Germany; our Government only says that it cannot allow a country, whoever it may be, to send its products to Germany without taking any or very little merchandise from us, and as especially Australia buys very little goods from us, there is no chance at present to take Apples from Australia, for which Germany would not be able to pay. Our Minister for Finance and Commerce, Dr. Schacht, says that we are not going to make new debts, and we shall only import products of other countries for which we can pay, and from countries who are willing to accept our

goods at least for the same volume as we take from them.

This is the real position, and if some countries do not believe this, we are not able to do business with those countries in future.

Some treaties between Sweden-Germany and Holland-Germany have already been signed, and other countries will certainly follow. Big efforts are made to produce in Germany all products which we used to import from other countries, and the world should not forget that once we have made treaties with countries which are treating us fairly we shall stick to them, and the last country that wants to come to an agreement with Germany would very likely regret the delay of so doing.

Let us hope that your country, Australia, will not be one of the last ones, thus to enable us to continue business relations for years to come. We can only repeat to you, as we have done so often, that Germany wants peace and bread, and the same rights as other countries.

England is, this week, sending a representative to make new treaties with



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Germany, and we hope also that Australia will make efforts to come to some understanding with our country, thus to enable us to take again your Apples during the coming season from Australia."

PEARS BRING GOOD PRICES.

Best for Years.

According to late London reports, the average price of Pears in Great Britain was 11/10 per case in 1934, as compared with 9/3 in the 1933 season. Whilst the top price received was 22/- per case for Comice, the supply was not large, and the best average prices received for the more common varieties were: Beurre Anjou, 14/- per case; Winter Nelis, 13/5; Beurre Bosc, 13/4; Packhams, 12/7; Winter Cole, 12/5, and Josephine, 12/4.

Worked into approximate returns at Victorian country stations, the above prices represent about 6/6 to 7/- per bushel case, the highest average returns for some years.

VICTORIA.

Market Review for November.

The benefit which was expected to result from the large influx of visitors for the Centenary celebrations during November was not as marked as was anticipated. The weather doubtless had much to do with this condition, and the movement of stocks suffered in consequence. On the whole, the market was rather dull, although prices remained generally steady, with the exception of Tomato clearances, which firmed somewhat during the month. Supplies were also affected by climatic conditions, and were lighter than the corresponding period of last year.

Citrus: Grape-fruit quantities eased off rather more than was expected. Oranges showed up appreciably, and Navel practically finished, whilst the keeping qualities of Valencias was reported to be the worst experienced for a long

time, giving more wastage than usual. Prices remained normal throughout.

Berries: Good quality Strawberries were plentiful, and cleared rather cheaply, owing to heavy supplies; rain, however, affected picking, and some decidedly gritty samples were presented. Gooseberries sold at lower prices than for some years, but were of good size and quality. Loganberries and Currants were delayed by cool weather, but such as were tendered brought firm prices.

Cherries opened up poorly, but improved towards the end of the month, N.S.W. consignments were particularly good in the last week.

Stone Fruits: Apricots brought good prices for early varieties compared with last year although on the small side. Peaches made an appearance during the last week, but were pale, and did not excite much competition. Here again weather conditions were unfavorable.

Tomatoes: South Australian Tomatoes held a fair price right through, but hot weather experienced during the latter half of the month caused considerable wastage. Local supplies made their first appearance during the last week, and realised satisfactory prices and a good reception.

Bananas: Large supplies of 6's and 7's were received, but in general the market was oversupplied, which, with humid conditions causing quick ripening, resulted in a distinct drop in price.

Apples: Movement slowed somewhat, but the better varieties were sought satisfactorily for this time of the year, with normal prices.

Pineapples: Demand remained steady during the month, but short supplies in the last few days caused a rise of 5/- per case.

Melbourne (30/11/34).—Prices quoted by the Wholesale Fruit Merchants' Association yesterday were as follow:—Per case: Apples, eating, 4/- to 6/-; few selected varieties, 8/- to 9/-; cooking, 3/6 to 6/-. Apricots, 6/- to 9/-; few larger higher. Bananas (double case),

green, 8's and 9's, 9/- to 10/-, few higher; 7's and 6's, 6/- to 8/-. Cherry Plums, 3/- to 5/- case. Cherries, S.A., 12/- to 13/- half case. Cucumbers, Qld., 14/- to 18/-; some special higher. Grape-fruit, 5/- to 10/-; few special selected higher. Lemons, best districts, 4/- to 5/-, inferior lower; other districts, 3/- to 4/6. Loquats, 4/- to 5/- half case. Mangoes, 8/- to 10/- half case. Navel Oranges, 5/- to 10/-, few 12/-. Val., 4/- to 9/- Passionfruit, good average quality, to 30/-; special quality, to 40/-; inferior lower. Pineapples, 12/- to 16/- double case; few colored higher. Papaws, 8/- to 10/- double case, few higher. Peaches, 6/- to 10/- half case. Tomatoes, local, 12/- to 16/- case; special higher; S. Aus. best grades, to 10/- half case.

The Melbourne market manager of the Federal Citrus Council of Australia reports that sales yesterday were as follow:—Vals., average standards, including N.S.W., 75-84, 5/-; 96-112, 6/-; 126-168, 6/6, few 7/-; 182, 6/-; 196, 5/6; 220, 5/-; 248, 5/6, below average standard grade, 4/- to 6/-; selected standards, 6/- to 8/-; specially selected, 7/- to 9/-. Grapefruit, average standards, best counts (60-75), 6/- to 8/-; large, from 5/-; selected, to 9/- and 10/-, best counts; a few specially selected, to 12/-, to 14/-. Lemons, average standards, to 4/- and 5/-, best counts, few 6/-; large and smalls, to 3/-. Navel Oranges, few specially selected, to 11/-.

New South Wales.

Sydney (26/11/34).—Mr. L. T. Pearce, market representative of the Fruit-growers' Federation of N.S.W., reports as follows:—Apples: Allsop's Seedling, 5/- to 10/-; Crofton, 5/- to 10/-; Del., 11/- to 14/-; Demo., 5/- to 9/- (N.S.W. to 10/-); French Crab, 5/6 to 9/-; G. Smith, 8/- to 12/-, few to 14/-; Sturmer, 5/- to 8/-; Yates, 6/6 to 10/6; Rokewood, 7/- to 8/-. Pears: Jos. 8/- to 14/-. Approximately 11,500 cases of Apples are arriving from Tas. to-day and 5,000 to 6,000 from Vic. Demand improved during the week, and prices appeared firm for good quality fruit.

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and Growers throughout Australia

CITY FRUIT MARKETS, SYDNEY

The first new season Apples from metropolitan sources arrived during the week. Pears: A few Broome Park (11/-) and W. Nelis are appearing, in addition to Jos. Apricots: Local, 3/- to 5/- half case, few special higher. Poor keeping quality is restricting the price paid for this fruit, although supplies continue light. Bananas: N.S.W. and Qld., 5/- to 12/- trop. case. Lighter deliveries and cool weather prevented the collapse of prices which was feared. Banana Passionfruit: 5/- to 9/- half case. Cherries, Young and Orange, 3/6 to 5/-; Florence and Napoleon, 3/- to 4/- quarter; the quality of Cherries is now much improved. Florence are arriving from Young and Early Lyon from Orange. Citrus: Grapefruit, N.S.W. standard, 6/- to 9/-, selected counts, 10/- to 15/-; Lemons, N.S.W., 3/- to 7/-; Navels, N.S.W., 8/- to 12/- bush. Other varieties of Oranges, 1/- to 3/-; few counts

113 to 125 to 5/-; Vals., 2/- to 5/6 bush.; few selected counts of extra special fruit to 7/- bush. **Comments on the Citrus Position.**—Lemons: Slightly improved demand for selected counts is reported. Valencias: There is very little life in this market except for selected counts of special quality fruit.

Gooseberries, N.S.W., 2/- to 4/6 quarter bush.; Tas., 4/6 to 6/6 half bush.; Mangoes, Apple, 17/- to 20/- bush.; Passionfruit, 10/- to 18/- half bush.; Peaches, 4/- to 7/-, small 2/- to 3/6, few special 8/- to 9/-; Plums, Early Jewell and Wilson 3/- to 5/6 half; Shiro 2/- to 4/- half; Papaws, 8/- to 11/- trop. case, small from 5/-; Pineapples, Qld., 13/- to 18/- trop. case; Strawberries, N.S.W., 4/- to 10/- doz. punnets; Tomatoes, N.S.W., 2/ to 6/- half; Qld. Cleveland 2/- to 4/-, repacked 3/- to 5/6.

QUEENSLAND.

Brisbane (17/11/34.—Stone fruits are now appearing on our market. Cherries arriving from Armidale and Tenterfield are selling at 9/- for choice quality, with other lines to 7/-.

A number of consignments of Apples from Tasmania are now showing signs of breaking down on arrival, this applying in most cases to Democrats, which have developed stalk rot. All colored varieties, including Victorian Yates, are selling to 11/-, this price also applying to green French Crabs. Victorian Sturmers realised firm values this week, some consignments selling to 13/-.

We are now receiving several consignments of North Queensland Mangoes and Pineapples. Both these lines have been selling at very steady rates, the former



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Growers in all States are invited to
send consignments. Highest market
rates and prompt settlements.

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Commonwealth Bank of Australia.
£500 Fidelity Bond Guarantee.

to 10/-, and the Rough Leaf Pines to 11/-.

We anticipate that our local Stanthorpe season will soon be in full swing. Up to date consignments coming from this district have only consisted of Green Peas.

Local Citrus is now finished, and we are depending on our supplies from the south. Choice southern Oranges are moving steadily at 7/- for popular sizes. —Robsons Pty. Ltd.

Brisbane (23/11/34). — Bananas : (cases), West Burleigh TS, 11/9 to 8/-; Closeburn, EJM 10/6 to 4/-, PI 10/- to 5/6; P. 7/6 and 5/-; Samsonvale, JG, 9/3 to 5/-; Gympie, AS, 9/- to 5/6; Pomona, WGMG, 9/- to 5/6; Eumundi, TFB, 8/6 to 5/6; ACP, 7/- and 5/-; DH 6/- to 4/-; D'Aguilar, WGBH, 6/3 and 5/-; Samford, AMCD, 6/- and 4/6; Landsborough, SFG, 6/- and 4/3; Palmwoods, H & B, 5/6 and 4/-; JC, 4/- bush. case; Samford, AMCD, 3/-.

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Specialists in Australian Fruit.

Solicit consignments of Apples, Pears, Etc.

Our record of over 30 years' standing in the handling of Australian fruit, with satisfactory results, is a recommendation for growers to ship their fruit to our house.

REPRESENTATIVES—

International Fruit & Mercantile Company Ltd., Melb., Vic., Australia; Pitts & Lehman, 129 Pitt St., Sydney, N.S.W.; and A. J. Walshe & Co., Hobart, Tasmania.

Western Australia.

Perth (23/11/34). — Apples: Yates, dumps, 2½ in. 8/- to 9/9; 2½ in. 9/- to 10/6 (special, 11/6); 2½ in. 10/- to 12/-; G. Smith, standard, 8/6 to 10/-, prime 10/6 to 14/-; Doherty, 6/6 to 8/6; Rokewood, 6/6 to 9/3. Citrus: Vals. flats, 3/- to 5/- (special to 6/-); dumps, 4/- to 8/-; Navels, 4/6 to 7/6 (special to 9/6), 8/- to 12/6 (special to 14/6); Lemons, 1/- to 3/6. Other lines: Loquats, flats, 3/- to 12/6. Apricots, flats, 5/- to 14/-. Tomatoes, metropolitan, 4/- to 5/9; Geraldton, 2/- to 10/-. Strawberries, 5/- to 14/- a doz. punnets (special to 22/-); Passionfruit, ½ dumps, prime 14/- to 23/-; Cherries, trays, 5/- to 15/6.

Tasmania.

Hobart (23/11/34). — Apples, 1/- to 2/- case; Gooseberries, 2/6 to 3/- half-case.

South Australia.

Adelaide (23/11/34). — Apples (eating), 6/- to 8/- case; Apples (cooking), 6/- to 7/- case; Bananas (Qld.), 16/- to 20/- case; Cherries (dark), 18/- case; Cherries (light), 9/- to 11/-; Gooseberries, 7/-; Lemons, 5/- to 6/-; Loquats, 4/- to 6/-; Oranges (Common), 5/- to 6/-; (Navel), 10/- to 11/-; Passionfruit, 50/-; Pineapples, 16/- case.

New Zealand.

Dunedin (16/11/34). — Messrs. Reilly's Central Produce Mart Ltd. report as follows: — Full supplies of both desert and cooking Apples are coming forward from Canterbury and Nelson coolstore. Asparagus has arrived freely during the week and prices are somewhat easier. Strawberries are now beginning to arrive and next week we expect full supplies to be available for all buyers. Citrus fruits are still available in sufficient quantities for all requirements—Lemons being in rather short supply.

Prices: Half cases: Dessert Pears, 3/-, 4/6; N.Z. Lemons, 9/-. Bushel and American cases: Apples, choice Del., 7/-, 9/-; Sturmers, 4/-, 8/6; R. Beauty, 7/-; Pears, cooking 6/-; W. Coles 8/6; Cali. Oranges, 35/-; Australian Vals., 16/-, 24/-; Grapefruit, 30/-; Cali. Grapes, Red Emperors, 25/-; Bananas, Niue Ripes, 23/-; Pineapples, 20/-; Cali. Lemons, 65/-; N.Z. Lemons, 1st grade, 18/-, 20/-.

Hull.

Messrs. John Seed & Sons, fruit brokers, Hull, Eng., report under date October 29, 1934, as follows:—

Oranges. — Australian (N.S.W.) (sound condition). Special "Valencia Lates" (ex "Port Adelaide"), 126's, 11/9, 150/176's 10/6, 11/-; 200/216's, 9/6, 10/6; 252's, 9/6, 10/-. Special Valencias (ex "Port Adelaide"), 126/150's, 10/6, 10/9; 176's, 9/9, 10/3; 200's, 9/6, 10/-; 216's, 8/9, 9/-; 252/288's, 8/3, 8/9. Valencia Lates (ex "Buteshire"), sound: 150's, 9/6, 10/-; 176/200's, 9/-, 9/9; 216/252/288's, 8/6, 9/3. South African —

Reilly's Central Produce Mart Ltd.

Queen's Warehouse,
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OF FRUIT AND PRODUCE.

Correspondence Invited.

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Bentley's.

"Valencias," Standard, 126's, 12/3; 150's, 11/6; 288/324's, 10/6, 11/-; "Valencia Lates," choice, 150's to 252's, 11/-.

Apples. — British Columbian, boxes: Grimes Golden, fancy 150's, 8/6; 163/175/180/198/216's, 8/9; 234/252's, 8/3. Oregon, boxes, Newtown, extra fancy 150 to 216's, 11/9, 12/3; Newtown, fancy, 150 to 216's, 11/-, 11/6.

Pears. — Californian, Winter Nelis, No. 1, 120/135's, 14/-; 150's, 13/-, 13/6; 165/180's, 13/6, few 14/-; 195's, 12/6. British Columbian, B. d'Anjou, fancy 100/150's, 13/6, 13/9.

Grapefruit. — Sundry lots: Florida, 17/6, 18/- per box; Jaffa, 13/-, 13/6 per box.

SYDNEY MARKET ACCOMMODATION.

The executive council of the Motor Van Owners' Association of N.S.W. has decided to write to the City Council of Sydney expressing appreciation of the

Herbert Wilson

Pty. Ltd.

Wholesale Fruit Merchants
and
Commission Agents

Nos. 1 and 10 Wholesale Fruit Market
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decision to open the fruit market continuously from 4 p.m. on Sundays until 12 noon on Saturdays. The secretary (Mr. R. J. Fitzgerald) informed the council that the decision would be a boon to orchardists and carters.

THE PORT OF LONDON.

The importance of London as a market for Australian fruit is stressed in a communication to hand from the Australian representative of the Port of London authority. It is pointed out that London has unmatched handling, storing and distributing resources: here agents, brokers and buyers congregate, and transactions are most readily financed.

THE PORT OF LONDON AUTHORITY.

(A. W. P.)

Very many people are in ignorance as to what the word "Authority" means, and in a few words I will enlighten them. When the Act of Parliament was passed in 1908 authorising the purchase of all the private docks, it was arranged that a body of 28 business men should constitute the board of directors, or, as it is called, the authority. Eighteen of these are elected by payers of dues and owners of river craft, and the remaining 10 nominated—4 by the London County Council, 2 by the Corporation of London, two by the Board of Trade, one by the Admiralty, and one by Trinity House. These appointments are honorary, no salary being paid, and elections every three years. The Authority nominates its chairman and vice-chairman from outside.

The total capital is about forty million sterling, and once the low fixed interest is paid, all profits go in reduction of rates or improvements. Therefore, the larger the business, the lower become the rates. Since 1925 three reductions in charges have been made, amounting to £1,000,000 per annum to those who use the Port of London, and this notwithstanding that wages are 70 per cent. higher than before the war.

London is unique in that everything is done in the docks for merchants; many intricate and expert marketing operations are performed on behalf of merchants, such as reporting on weights, quality and condition, sorting of produce to qualities and marks, opening packages for inspection and furnishing samples representative of the exact condition of consignments, measuring, blending, bottling, conditioning and repacking for export. Nothing need be removed from the docks or duties paid till the goods are sold. In all this London is unique. No other ports attempt such work.

London is the financial centre of the world. The greatest number of buyers congregate in London. It has the greatest and most expert selling and distributing organisation in the world, and is visited by millions of people annually, in addition to its own vast population.

Bills of Exchange on London are the currency of the world's commerce, and the smallest shipper can hypothecate his document in the best terms, and, above all, it is the key-port and entrepot of Europe.

COMPANY REPORTS.

A dividend of 1/- per share has been declared by the directors of Sydney Cold Stores Ltd., following a successful year's operations. The payment will not be made until after the annual meeting of shareholders on December 13.

Do not run any Financial Risk with your Fruit
but Consign it to

HEDLEY GEEVES PTY. LIMITED

Telegraphic Address:
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(Hedley Geeves, Managing Director)

Registered Shipping No. 6.

FRUIT EXCHANGE — BRISBANE

SELECTED AGENTS FOR:

Victoria: Harcourt Fruitgrowers' Progress Assn. Ltd.
Harcourt Fruit Supply Co. Ltd.
Victorian Central Citrus Assn. Ltd.

Tasmania: State Fruit Advisory Board.
New South Wales: Griffith Producers' Co-op. Co. Ltd.
Batlow Packing House Co-op. Soc. Ltd.

Highest Prices.

Prompt Returns.

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Wholesale Fruit Merchant
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A Trial Solicited. Returns Speak for Themselves.
Established 1888. Shipping No. 19.

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Guarantee satisfaction to Clients. Send us a
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Account Sales and Cheques sent promptly.
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NORTHWEST FRUIT GROWER

"The Authoritative Magazine of the Deciduous Fruit Industry"

Published in Wenatchee, Washington,
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Latest and most authentic information on Spraying,
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Subscription Rates—Foreign, 3 dollars per year;
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Best Efforts for Good Returns.

Jacklyn & Jacklyn

Fruit Exchange, Brisbane
Queensland

Wholesale Fruit Merchants & Growers' Agents

J. H. Jacklyn, Sen., has had 40 years' experience in
the fruit trade.

A Trial Solicited.

Shipping No. 36.

LATE NEWS

QUEENSLAND:

A hailstorm in the Stanthorpe district has reduced the Apple crop. The export total is estimated at around 30,000 cases.

VICTORIA:

The severest storm and flood in the history of the State wrought very great harm to farms and orchards.

In the metropolitan and Gippsland areas thousands of tons of top soil were washed away: in Doncaster and Mitcham areas whole orchards have been inundated, the water in some instances covering the tops of the trees.

NEW SOUTH WALES.

The Citrus Industry.

At a meeting of the Citrus Committee of the N.S.W. Fruitgrowers' Federation at the end of November, the following was recommended:—All packing sheds to be licensed; Government supervision of packing and shipping; only ships with suitable refrigeration to be used for export; reduction of heavy charges on shipowners to be used for freight reduction; regulations for careful handling; precooling refrigerator cars on railways.

It was decided to ask the Federal Government to completely review the season's export for research into diseases.

Compulsory Control Urged

Vigorous opposition to any form of compulsory control of the Citrus industry was expressed at a representative meeting of Griffith, Yenda and Leeton growers at the Griffith Packing Shed. The motion was moved by Mr. J. E. Ward, the Griffith representative on the N.S.W. Fruitgrowers' Federation.

SOUTH AUSTRALIA.

The annual general meeting of the South Australian Fruit Marketing Association was held at Adelaide on November 2.

The annual report, which was presented by the chairman and adopted, gave a detailed report of the Association's useful work and the activities of the Australian Apple and Pear Export Council.

In the absence of Mr. H. N. Wicks, the Research Committee's report, detail-

ing the valuable work in hand was presented by Mr. J. B. Randell.

A cordial welcome was extended to the Deputy Horticultural Instructor, Mr. A. G. Strickland.

Office-bearers were elected as follows—President, Mr. H. J. Bishop; Committee: Voting shipper members, Messrs. G. A. W. Pope, P. R. B. Searcy, F. B. James, R. S. McDougall; voting grower members, Messrs. D. Norsworthy, M. G. Basey, J. B. Randell, A. O. Peterson, J. B. Hammat and R. O. Knappstein. Auxiliary Committee (shippers), Messrs. A. V. Pitt, R. H. Charlick, G. Mack, A. Filsell. Auxiliary Committee (growers), Messrs. E. W. Dearman, M. Vickers, W. W. Miller, R. A. Cramond, Fred Redden, D. W. Hannaford, R. B. Pritchard, T. Playford, A. Brealey, E. S. Mason, All district delegates were reappointed.

NEW ZEALAND AND AUSTRALIA

Mr. H. A. Court, a member of the Tasmanian State Fruit Advisory Board, who was a member of the delegation from the Australian Apple and Pear Export Council to New Zealand in November, advises that an agreement was come to regarding mutual restriction on the export of Apples.

Mr. Court speaks highly of the courtesy of the New Zealanders.

SPECIAL NOTICE TO FRUITGROWERS

All Members
under
Fidelity Bond

In response to numerous requests from growers for information as to who are members of the **Wholesale Fruit Merchants' Association of Victoria** the following list is given. All are members of the above Association, and are registered firms carrying on business in the

WHOLESALE FRUIT MARKET, MELBOURNE.

STAND NUMBERS ARE AS INDICATED IN PARENTHESIS.

T. STOTT & SONS (26).
H. L. E. LOVETT & CO. (23).
A. E. PITT (14).
J. DAVIS PTY. LTD. (8).
W. S. TONG (31).
SILK BROS. PTY. LTD. (24-25).
J. G. MUMFORD (35).
GOLDEN VALLEY FRUIT CO. PTY. LTD. (15).
J. W. ROSS (13).
J. H. YOUNG & CO. PTY. LTD. (32).
H. M. WADE & CO. (21).

DAVID SMITH PTY. LTD. (3).
SILBERT, SHARP & DAVIES PTY. LTD. (17).
W. A. WATKINS (5).
P. A. PATRIKEOS (36).
G. WOOLF & SONS (29-30).
F. CAVE & CO. PTY. LTD. (9).
R. CORNISH & SONS (5).
J. HYMAN & SON (51).
HERBERT WILSON PTY. LTD. (10).
FRANK BOOTH & SONS PTY. LTD. (16).
GEO. LISTER PTY. LTD. (12).
TIM YOUNG & CO. PTY. LTD. (18).
F. W. VEAR PTY. LTD. (28).

GROWERS PROTECT YOURSELVES by consigning to members of the **WHOLESALE FRUIT MERCHANTS' ASSOCIATION OF VICTORIA**.

Correspondence is invited by the Association.

J. D. FRASER, Secretary, 21 Wholesale Fruit Market,
Queen Street, Melbourne. Phone F 4866.

Fruit Paper Sued

Ex-Editor Wins Case for Wrongful Dismissal Against "Fruit Culture."

Before the Chief Justice, Mr. Justice Jordan and jury, Henry James Stephens, a journalist, claimed £750 damages from the Agricultural Press Ltd., in a count of wrongful dismissal. Plaintiff's case was that he and others were responsible for the incorporation of the defendant company, which was the proprietor of a newspaper known as "Fruit Culture and Small Farming." Plaintiff acted as editor of that newspaper until April, when he was dismissed and given a week's salary in lieu of notice.

The defendant company set up that the plaintiff accused his co-directors of trying to squeeze him out of the company, and that the plaintiff was guilty of insubordination. It was also claimed that a week after the dismissal the plaintiff was offered his old position on the old terms, and that he refused to accept it.

The jury returned a verdict for the plaintiff for £150.

Mr. Stephen and Mr. J. V. Coen (instructed by Messrs. Densley and Downing) appeared for the plaintiff; and Mr. P. C. Spender and Mr. C. V. Rooney (instructed by Messrs. Cohen and Linton) for the defendant.—"Sydney Morning Herald."

SUPPORT CO-OPERATION

By Consigning your
FRUIT to the

Producers' Distributing Society Ltd.

(Late Coastal Farmers' Co-operative
Society Ltd.)

Agents for

"BLACK LEAF 40"
and all Orchard Requirements

Melbourne Sydney
Newcastle Devonport

Testing Fruit Cases

Improved Nailing Proposed.

The Council for Scientific and Industrial Research recently reported results of tests they undertook to determine the resistance of 56 lb. dried fruit boxes to the infestation of the fruit by insects. Several factors entered into the tests and the first remedy attempted was the alteration of the system of nailing by increasing the number of nails used, which was estimated to increase resistance to conditions of rough handling, and by using properly seasoned timber more carefully assembled in the making of the case.

Ten shipments were made to London in which 40 boxes were nailed as usual and 40 boxes nailed as recommended by the Division of Forest Products. The boxes were made at the same time, packed in the same way, transported by the same truck and boat, receiving thereby the same treatment.

Upon arrival in London, the boxes were carefully inspected and detailed reports were made when the following facts were discovered:—

The proposed method of nailing was a definite improvement in every shipment. The condition of the cases was reported under four headings:—

1. Boxes with no defects: Present method 14, proposed method 22.
2. Boxes with slight defects: Present method 145, proposed method 205.
3. Boxes with defects that might affect the strength of the box: Present method 142, proposed method 110.
4. Badly damaged boxes: Present method 99, proposed method 63.

Thus it will be seen that in boxes nailed according to the proposed method, 57 per cent. were undamaged or only slightly damaged, as against 40 per cent. under the present method of nailing. Of the badly damaged boxes only 16 per cent. were nailed in the proposed method as against 25 per cent. under the present method, which showed that a distinct improvement in landing condition may be reasonably expected by adopting the proposed method of nailing cases for export.

Going still farther, the study showed that the pulling of the nails or the shearing of the wood from the nails was affected in the following proportions:—Under the present method 176 tops and bottoms and 116 sides were affected, whilst under the proposed method only 98 tops and bottoms and 92 sides were adversely criticised, therefore the pro-

posed method of nailing greatly reduced damage and resulted in a general stiffening of the boxes.

The criticism that splitting of the ends by the use of more nails would result was disproved by discovering that 12 split ends occurred in cases nailed as at present and nine nailed as proposed.

One factor that contributed to the above adverse reports on both methods in these trial shipments, was that poor quality timber was used in the boxes which were also poorly assembled. It is argued that if better timber and more careful construction were provided, the improvement would still greatly favor the proposed method of nailing.

The tests resulted in the following changes being recommended:—The number and size of nails in the top and bottom nailing edges should be increased from four 1½ in. x 14-gauge nails to six 1½ in. x 14-gauge nails and on each side nailing edge four 1½ in. x 13-gauge nails should be used. The use of efficient high-holding power nails, such as rusted or twisted nails is a further recommendation, but it is claimed that barbed nails, at present commonly used, are no more efficient than plain nails.

The report closes with the suggestion that although the adoption of the proposed method of nailing might entail the alteration or replacement of existing nailing machines, the cost per ton of fruit packed would be very small, and a considerable improvement in the serviceability of the containers would result, therefore the proposed method is recommended.

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for
this market will have
careful attention and
realise highest prices
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Fruitgrowers of Otago
Limited, Dunedin

Personal supervision of
every consignment.

Cheques posted promptly.

Drop us a Line or Cable:
"Peachbloom," Dunedin.

